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ART. I. OBSERVATIONS *on* ENDEMIC FEVER, *delivered as the Annual Address before the Medical Society of the State of New-York, at Albany, February* 2, 1825. By ALEXANDER COVENTRY, M. D. President of the Society.

Gentlemen of the Society,

WHEN I recollect the condition of the medical profession in this State thirty or forty years ago, I contemplate with great pleasure its present respectable standing. The favourable change has arisen from the laws regulating the practice of physic, and requiring preparatory study. But it cannot be concealed, that material defects still exist in the code; and it has been reserved for the patriotic legislature, now sitting, so to revise the statutes, as to place the practitioners of physic on a par with those in other sections of the union, and to enable them to keep pace with their fellow-citizens, in that career by which the State of New-York is attaining so marked a pre-eminence.

The proviso, in the 20th article of the act passed 10th April, 1813, to regulate the practice of physic, exempting

those using roots, bark, or herbs, the growth or produce of the States, from the regulations of said act, as now used, or rather abused, is a disgrace to our statute book, and a stigma on a civilized people. It is unjust, as it is unwise. While the regular physician is made subject to several years of study, a set of impostors, whose impudence is only equalled by their ignorance, are allowed to rob and murder the good citizens, under the pretence of using only herbs and roots the produce of the country, although it is well known that they deal in the most powerful drugs in the shops, however ignorant, as they must be, of their composition and qualities.

There is a kind of superstition among our people, as to Indian skill in physic. This is a fallacy; their whole skill consists in exciting a violent perspiration, and plunging into the nearest river. You may as well tell of an Indian mathematician whose knowledge of numbers extends to his ten fingers, as of an Indian physician. The mist of prejudice is fast disappearing before our excellent system of education; the next generation will regard the present belief in Indian and root doctors with the same reverence that we contemplate the faith which our forefathers had in witchcraft and demonology. If there are any indigenous plants that will stand a comparison with those in our materia medica, (the qualities of many of which latter have been tested by the experience of centuries,) some individual of the profession will be found willing to distinguish himself by introducing it into practice. Men of experience will prefer using articles whose powers are well ascertained, to tampering with new drugs, whose qualities are not established. We may recollect the ephemeral celebrity of several medicines, fashionable for a while, now not heard of. For most purposes in regular practice, the present materia medica will be found abundantly sufficient; and, from the spirit of enterprise, and love of novelty, of our citizens, there is no little danger of crowding our pharmacopœias with useless and superfluous articles, and those of doubtful import.

When we reflect that this Society exists by statute, and take into consideration its peculiar organization, we cannot but regard it as entitled to the full confidence of the people, and of their representatives in the legislature. We meet here delegated from the schools, the seats of medical knowledge, and from the societies in the different counties; we are not elected by intrigue; no political or selfish purposes can be subserved by our selection; we are chosen by our professional brethren, our compeers, and competent judges of our claims. We cannot have a doubt but our recommendations will have due weight with an enlightened and patriotic legislature: with gentlemen of whom it may be said emphatically and truly, that they are the real representatives of the people. As such, let us appeal to them, that, by revising the law regulating our practice, they may protect their constituents against base and unprincipled practitioners, against ignorance and impudence, against all imposture, nostrums, and quackery. And where can this trust be more safely lodged than with medical societies, composed of gentlemen to whom are entrusted the preservation of their own lives, and of the lives of their wives and children.

I beg leave to call your attention to the innumerable patent medicines, whose virtues are blazoned forth and fill the columns of every newspaper. I boldly appeal to every medical gentleman present, if there can be any drug, or any combination of drugs, that would be applicable to any disorder, in all constitutions, or even to an individual, under all circumstances, while labouring under any particular disease. The use of patent medicine is therefore irreconcilable to common sense.

It was truly mortifying to see the names of two respectable professors in the oldest medical school in the Union recommending a certain panacea. We would also deprecate all American editions of English domestic medicine; we would prefer their cooking, to their medical practice; being convinced, from some experience, that the latter is adapted neither to our soil or our climate. Our country is well supplied with medical men; and while the parent is following the prescrip-

tions of Buchan or Thomas, (often erroneously) the precious moments are lost in which the physician might have saved the child.

Our medical brethren in Connecticut did themselves much honour, by expelling Perkins from their society. The English College of Physicians have lately struck Dr. Thornton's name from their list, for countenancing Whitlow, who I suspect is practising on the cockneys with some plant he has picked up in our woods. We remember Whitlow's lectures on botany; some will not forget his scheme for propagating nettles. That a man might bodily enter a quart bottle, is quite as feasible as that Whitlow should understand any thing of physic. Yet this great genius had a dinner given to him in London, last spring, which was attended by some respectable men. But let us not be too severe on honest John, when we have faults of our own to mend. Have we not seen, among this enlightened people, certificates from professional men, the amount of which were, that fits of hysterics, or the frolics of a young girl, were mistaken for hydrophobia? We have in our time witnessed a prodigious waste of paper and ink to prove facts more incredible than the exploits of the veracious Baron Munchausen, and more wonderful than the miraculous prayers of the pious Prince Hohenlohe, the efficacy of which threatens destruction to the profession. Perhaps we might have doubted the evidence of our own senses, had we not heard of similar instances. Above a hundred infallible specifics have been discovered for the cure of canine madness; yet the disease, Anteus-like, rises invigorated from each defeat, and scarcely a week passes without hearing of its fatality. The celebrated Doctor Crouse conquered it with the false tongue of a foal, and the rust of a farthing. But a gentleman of equal ingenuity, and superior credulity, believes that the most dreadful disease that afflicts the human race, may be prevented and cured by plentiful potations of a tea very inferior in quality to that of catmint, the grand catholicon of dry nurses. It is our duty, as individuals and members of this Society, to protect our fellow-citizens not only against

the art and deception of the wicked, but also against the weak judgment of those who, led astray by over-weening vanity, set themselves up as judges in matters of which they cannot possibly have a competent knowledge.

Gentlemen, I would now solicit your attention to some observations on the subject of the last year's address, which you will recollect was Endemic Fever. At that time I endeavoured to confine my observations to its remote cause.

On the present occasion, I will refer principally to the symptoms and treatment; and, pursuing my former plan, state to you my personal observations, which mode I prefer to recapitulating the opinions of others, with which you are as well, if not better, acquainted than I am. I cannot, however, omit mentioning a recent publication which I have perused with uncommon satisfaction. This is an Essay on Epidemic Fever, by Doctor Cooke of Frederick county, Virginia, which entitled him to a premium of one hundred dollars, liberally offered by the proprietor of the Medical Recorder, for the best Essay on Epidemic Fever. If I am not much mistaken, this gentleman describes the same kind of fever designated as endemic, in my address of last winter; and I cannot but flatter myself that some coincidence will be found in our opinions, which, living as we do some hundred miles apart, could only have arisen from a partial similarity in the locations where our observations were made.

In considering the symptoms of endemic fever, I shall notice them, 1st, As affecting the native or resident, one who has been acclimated, or has become gradually accustomed to the cause, and whose enfeebled frame seems incapable of violent re-action.

2dly, As affecting strangers arriving from healthy countries, where the cause of endemic disease is not known, in whose frame the phlogistic diathesis prevails, and in whom a violent re-action takes place, and proves the chief source of danger.

3dly, Where the highest degree of susceptibility in the subject, encounters the highest state of preparation on the

part of the agent. It is known, that in those parts of our country where endemic fever prevails, it (generally speaking) commences at certain seasons of the year, and either finally stops, or is materially checked at other periods. Thus, even in the most unhealthy places, we hear of little disease till the middle of July, and, *communibus annis*, the cold weather or first frosts put a check to its ravages. In some seasons the disease continues into the cold weather; in those cases it seems to be the development of causes originating in the preceding autumn, for we know that disease will as it were lurk in the system, for months, or even a whole season, and at length be roused into action by some exciting cause.

In countries subject to endemic diseases, the inhabitants are exposed to the agent in a manner somewhat analogous to a person commencing with small portions of some poison, and daily increasing the doses, till the powers of life succumb, or the system is roused to violent re-action. But before either of these takes place, the individual feels the operation of the agent on his person, and the effect is cognizable in his external appearance.

From the personal experience of three attacks, I will endeavour to point out some of what may be called the premonitory symptoms. Some time previous to the chill, and varying according to circumstances, the individual will be sensible of general lassitude, a dejection of mind, a reluctance to exertion, languor, his appetite forsakes him, he feels a disgust even at the scent of animal food, his sleep is disturbed with frightful dreams, the bowels are costive, there is a dryness and nauseous taste in the mouth, especially in the morning; a dull head-ache, an aching in the small of the back, and the pulse is slow and feeble. I have found it intermitting, and in a few cases imperceptible. To a looker on, the countenance will appear dejected, of a dull sallow, sometimes of a leaden colour, the eyes sunk deeper, the pupils somewhat dilated, the adnata of a dirty yellow. The back-ache increases in severity till the chill takes place; this commences with cold in the extremities, horripilatic or goose-skin over the surface, and va-

ries in degree, from being so slight as hardly to be noticed, to such violence and continuation as to threaten the life and sometimes to terminate in the death of the individual. The cold stage, however, generally after a time abates, and is succeeded by a burning fever, attended with a flushing in the face, red and suffused eyes, violent head-ache, a dry skin with a mordent heat, bounding pulse, a pain in the region of the stomach, nausea, at times efforts to vomit, but only a slimy mucus discharged. Should the attack fortunately be a paroxysm of an intermittent, after a time the skin becomes moist as the perspiration flows, and the febrile symptoms abate. If no diaphoresis takes place, the fever continues, with violent head-ache, much thirst, great anxiety, a weight at the præcordia, and sometimes a slight delirium through the night. In the morning a remission often takes place; the fever is not so high, but the thirst, hot skin, and pain in the head, continue; in the afternoon, an aggravation of symptoms, and increase of fever, again take place, and continue through the night, followed by another remission; the bowels during this period are constipated, and do not respond to ordinary doses of cathartics, and about the third or fifth day the vomiting becomes bilious, a diaphoresis appears on the skin, and the patient experiences some relief.

This is the common course in the milder cases. An evident intermission, generally a termination of the most alarming symptoms, takes place on the third, fifth, or seventh day, after which the sick begin to convalesce. The debility is, however, much greater than could reasonably be expected from the short period of the disease, and the system does not regain its usual tone till the accession of warm weather in the succeeding summer; in not a few cases, dropsies or rheumatisms are the sequels of the attack, and these, from the exhausted state of the system, often baffle the powers of medicine. In more severe cases, among the residents, after the third or fifth day, the adnata acquire a deeper yellow. This hue shows itself in the neck, spreading along the breast and shoulders, and at length occupies the whole surface; the

vomiting and distressing nausea continue; from a bilious, the matter ejected acquires a brown colour; the tongue sometimes has a brown coat, and at times a fiery red appearance; the alvine evacuations are black, at times sanguineous; a clammy sweat appears on the surface, staining the linen yellow; the urine is in small quantities, and turbid; a slight delirium takes place; subsultus tendinum, and hiccup, succeed; the patient sinks into a coma, and death closes the scene; the corpse being invariably of a yellow, or rather deep orange, colour.

I have met with cases where there was no re-action of the system, but a complete prostration of the living principle, and in which the nerves appeared to have lost their irritability. These occurred chiefly when the disease was developed in cold weather; at which time the thoracic viscera seemed the seat of complaint. There was an intolerable oppression at the breast, a great difficulty in respiration, and ultimately an expectoration of mucus streaked with blood.

When endemic fever attacks a stranger, newly arrived from a healthy climate, in whom the phlogistic diathesis is prevalent, although he at first complains of lassitude, coldness, and nausea, and his pulse will be found slower, and skin cooler, than usual, these symptoms are soon succeeded by violent re-action, high fever, flushing of the face, redness in the eyes, intense pain in the head, throbbing at the temples, dry, parched skin, oppression at the præcordia, an indescribable weight and burning sensation at the stomach, with nausea; the pulse full, bounding, and generally strong; I say generally, for in some of these cases the power of life seems stifled at once, and there seems no effort made by nature. There is frequently a white fur on the tongue, and when the patient drinks to quench an intolerable thirst, his stomach rejects the liquid, and repeated efforts to vomit succeed; at first nothing but the usual contents of the stomach are brought up; after considerable straining, the bile passes off in quantities; and in the most malignant cases, where the emesis obstinately continues, a substance resembling coffee grounds is

at last ejected. The first paroxysm will continue twelve, twenty-four, or thirty-six hours, when a calm, or remission succeeds, but this too often proves deceitful, and another storm succeeds; in these cases the urine is in small quantities, nearly obstructed, sometimes passes involuntary, and an obstinate costiveness prevails. Too often, during the violence of the paroxysm, obstruction or effusion takes place in some vital organ, a derangement of structure follows, the skin becomes yellow, then orange, and inclines to a mahogany hue. If the individual survives the fifth day, and a gentle perspiration appears on the skin, with copious discharges of dark coloured fæces, some hopes of recovery may be entertained.

During a residence of five years in the lake country, I have no recollection of a case of fever that assumed the typhoid type; and I believe, where endemic fevers are prevalent, as in the East and West Indies, or even in the Southern States, particularly in the warm season, typhus is of rare occurrence. Endemic fever, in those districts where the causes exist, seems to run a short course, in which the patient either sinks or soon convalesces. It would seem that the deleterious air becomes necessary to the due support of those accustomed to it, for I have more than once observed, that the natives of swampy and unhealthy districts were apt to droop and decay when removed to the purer air of the hills, where endemic disease was unknown; there seemed to be something wanting to keep up excitement, like alcohol to the drunkard, or tobacco to the habitual smoker.

I have reason to believe, when the foundation of disease has been laid among marshes, or arises from endemic causes, but the fever developes itself in healthy locations, that the paroxysm commences with more violent re-action, the disorder is apt to run a more protracted course, and towards the last, assume the appearance of typhus. I am aware that gentlemen high in the profession maintain that typhus is a specific disease, and depends on a contagion sui generis; this was the faith in which I was educated, and most religiously

believed. My first acquaintaince with typhus was in crowded and unclean abodes, or rather polluted dens, among the narrow and ill-ventilated alleys of the city, where I have seen more than one family, of which the simple picture drawn by John Hunter, and quoted by Doctor Good, is a faithful representation. In these cases, I have witnessed one after another of a large family take to the sick bed, and had no doubt but contagion was the agent. But my former opinions have received some violent concussions from many stubborn facts which have occurred to me during thirty years' practice among the sparse population of a newly settled country, where I have met not a few cases of typhus distinctly marked from the commencement, occasioned at times by excessive fatigue, exposure to wet and cold, &c. where no possibility of contagion could be traced. Nay, I feel warranted in asserting, that in the district where I now reside, it is not uncommon to see a fever commence with high arterial action, such as is common in those cases generally denominated bilious remittent, and in a few days assume the typhoid type. There is little or no analogy between this fever, typhus, and those diseases called contagious. The fever has no stated period; and I am much deceived if I have not seen repeated attacks in the same individual—but I am travelling out of the record; my present business is with endemic fever.

In the third division, which comprises the most malignant cases, the early symptoms are modified by the previous state of the patient; in the young and robust, after a slight chill, or only a crawling sensation of cold, a violent re-action commences, attended with high febrile commotions, face flushed, eyes inflamed, skin hot, pulse strong and frequent, and sometimes a pungent burning sensation, and an insupportable oppression at the præcordia, with ineffectual efforts to vomit.

When this tumult of the system is over, too often evidences remain that irreparable mischief has taken place in some vital organ, generally either the brain or stomach. In weak and delicate frames, the period of excitement is absent, and from the beginning their symptoms agree with the collapse of the

robust; the skin has a dark, leaden appearance, feels cold and flabby; the pulse is weak, and slower than natural, often intermitting; a torpor seems to have taken possession of the nervous system, the nerves have become insensible to the usual stimulants; the secretions seem to be arrested; the secreting glands refuse to perform their office; the urine is in small quantities, or totally suppressed; the prima via will not respond to common doses; even the liver has lost its tone, and little or no bile is secreted. Meanwhile the patient seems insensible of his danger; he does not complain, except perchance of a bad feeling at the epigastrium.

Whilst the nervous sensibility of the system seems materially impaired, the power of voluntary motion often remains in a remarkable degree. I have seen a patient raise himself from the bed, stand erect, and even walk across the room to the close stool, with no perceptible pulsation at the wrist, his extremities bedewed with a clammy perspiration of the coldness of ice, and death depicted on his countenance. Even at the commencement of these malignant cases, there is something in the eye, in the face of the sick person, which cannot be well described. A lurid, wild, semi-delirious glare of the eye, a mottled, purplish yellow hue in the skin, which, to the experienced, predicts, too truly, a fatal event, excites our sensibility, sinks our hearts to despair, and sometimes creates a despondency not warrantable in our profession. In fatal cases of this division, not unfrequently a dark coloured matter is ejected from the stomach, often by eructation, and if the bowels become soluble, either dark venous blood, or this matter, passes off involuntarily, and the patient sinks quietly into the arms of death.

Before entering on the treatment of fever, we may devote a few minutes to the best means of preventing its accession; and if I have not deceived myself, this may be frequently achieved by pursuing a proper course.

Whenever the resident of a country in which endemic disease is likely to prevail, feels indisposed, particularly in the sickly season, if he perceives any of the premonitory symp-

toms formerly spoken of, without loss of time he ought to apply to a physician, whose duty it will be to prescribe a cathartic, and the best for the purpose is the usual composition of calomel and jalap. While under its operation, the patient should drink freely of some mild liquid, chicken water, beef tea, whey or barley water; the use of solid animal food should be omitted for a few days, during which a gentle diarrhœa should be kept up, by small and repeated doses of the same medicine; or should there be any danger of ptyalism, (always unpleasant, and seldom necessary) the sulphate of soda may be employed after the first dose. I can recommend this common medicine from much experience, and esteem it only second in power to mercury in emulging or relieving the chylopoietic viscera. After keeping the prima via lax for several days, the patient will feel relieved, and may safely venture on the cinchona, of which three drachms or teaspoonsful may be taken every day. And this medicine may be continued through the sickly season, observing to avoid a costive habit, shunning the night air, and sparingly using animal food. The sulphate of quinine is an excellent substitute for the bark, and croton oil may be used as a laxative.

A most respectable gentleman informed me, that while residing in South Carolina, he became acquainted with a wealthy planter, who had not left his plantation in the sickly season for many years, although all his neighbours emigrated annually during the hot months. The only precaution used was a small dose of Glauber's salts every morning, during the period of fevers.

The extension of the Union to the mouth of the Mississippi has greatly increased the intercourse between the north and south. The independence of Spanish America will afford new attractions for our citizens to unhealthy situations. Those who intend to visit or remove to a warmer and more sickly climate, ought to select that period of the year which with safety will afford them a partial seasoning, previous to the access of the sultry season in our Southern States. The month of November is the best for the emigrant to arrive in;

he will be partially acclimated by July and August; and if he does not wholly escape sickness, his attack will be less severe, and the disease of a milder type. To those whose necessary business compels them to visit a southern climate in warm weather, a certain kind of preparation would be of great service. For some time previous to, and during the voyage, the proportion of animal food should be lessened, spiritous liquors avoided, the bowels kept rather lax, and if no particular idiosyncrasy forbid, calomel taken in small doses combined with jalap, scammony, gamboge, or the croton oil. It would be desirable that the system should be under a gentle influence of mercury, on the arrival at the place of destination. About thirty years ago, a friend, a sea captain, informed me, that in one of his voyages from New-York, when he arrived at the West Indies, every man of his crew were under the influence of mercury. The vessel lay some weeks, I think at St. Pierre's, Martinique. It was a very sickly season; every vessel but his lost some hands; several, their whole crews; but not one of his men had the fever. At the taking of Omoa, on the Spanish Main, the British squadron suffered severely by fever; but it was remarked, that of a number of men employed to collect with their hands some quicksilver spilt from the jars in a prize-vessel, not one sickened, although surrounded by the dead and dying.

When a person in health arrives from a northern district at a southern port, in hot weather, he ought to be bled copiously, and make use freely of cathartics; the efficacy of this plan was proved in a detachment of Dutch artillery, composed of robust young men. On their approaching the island of St. Domingo, the lancet was used, and powerful cathartics were given to every individual. At the expiration of four months, of one hundred and five men only two had died. No precaution had been taken with the crew of the transport, consisting of twenty-eight; of these eight had died at the expiration of the period.

In speaking of the treatment, I wish to have it understood that my desire is to confine myself to endemic fever, which,

in my opinion, requires a course of management different from what might be proper in pyrexia taking place in healthy countries, where transient causes operate on vigorous and robust habits, and the morbidly increased action principally constitutes the disease.

In districts subject to endemics, the tone or excitability has been exhausted by continued and excessive heats; the temperature of the body is found three or four degrees lower than that of a stranger, and the resident is enfeebled by breathing for months a poisonous air. During the disease, the deleterious agent continues in full operation, and we must calculate on, and endeavour to counteract its effects. While we endeavour to allay tumult in the system, we must not so far reduce the patient as to leave him a prey to the combined influence of the cause, and the exhaustion that invariably succeeds over excitement.

A residence for some years in the lake country, induced me to relinquish the practice which I had been taught, and seen employed by the first medical man of his age. I here found my favourite theory entirely at fault, and neither bleeding or sweating would restore health, or prevent a yellow skin. The use of the lancet has been in and out of fashion by turns, in febrile diseases, for twenty centuries: now the Ægis of security, and now the infallible messenger of death; in discreet hands, a useful and efficient instrument; used without discretion, scarcely behind the brandy-plan of Brown, whose closet speculations were for many years more propitious to American grave-yards, than war, famine, or pestilence.

The present high standing of the lancet, may be in some measure attributed to the writings of the medical men attached to the European armies, who during a war of twenty-two years, had ample opportunity of testing the usefulness of venesection, among the robust young men, natives of healthy countries, who composed the materiel of these armies.

The British army and navy surgeons also found depletion indispensable, to reduce the plethoric and inflammatory dia-

thesis of Europeans, on their arrival at stations within the tropics.

If I might speak from some observation, I would state, that in much the greater part of the Union, more caution is necessary in using the lancet, than in northern and middle Europe, where a milder sun, and purer air is prevalent. I have witnessed more than one case, where my opinion was, that the loss of blood accelerated the death of the patient.

In endemic fever, however necessary the use of the lancet may be in some subjects at first, a repetition is seldom requisite, as it may be productive of a protracted convalescence, or lay the foundation of dropsy.

Diaphoretics, from which I had formerly found much benefit in febrile cases, appeared useless in endemic fever, and experience taught me, that although the nausea seemed to indicate emetics, they too often aggravated that intolerable oppression at the epigastrium, prolonged the distressing retching, and increased the determination to the head, where the agony was already insupportable.

I will briefly state the plan I adopted after being taught by the experience of several seasons. When called to a patient, in the first place I endeavoured to discover the cause, and if possible have it removed, or the patient was taken to a greater distance from it; too often, neither was practicable, and sometimes the agent not cognisable. When the patient was still in the state of depression, if this was extreme, I commenced by exciting the vital powers, and found the warm bath, with frequent doses of ether, the most serviceable. With the latter I gave alternately portions of calomel, if the stomach was irritable, alone, or combined with cathartics, jalap, gamboge, or scammony; but if reaction had already commenced, and was threatening the patient with serious injury in some vital organ, and if the patient was young and robust, I opened a vein, and let the blood flow till the system felt the effect. When no local determination forbade, and the skin exhibited that pungent dry heat, cold effusion was had recourse to, and repeated as often as the heat of the surface

seemed to demand. This is a powerful agent when judiciously used, and persevered in, if the state of the patient will admit of it, and when resorted to early, few febrile cases will withstand it. Should circumstances not allow of its use, as in low cases, our chief dependence is then on mercury, which in fevers, is the sheet-anchor. This potent medicine acts in a double capacity, as an excellent cathartic and deobstruent, exciting and as it were emulging the chylopoietic glands, and at the same time raising a specific action in the system, which subdues and regulates those abnormal motions constituting remittent fever.

I have at times been in doubt, whether the cathartic or alterative powers of calomel were the most to be relied on. The experience of many years has taught me to hail the appearance of mercurial action in the system, as an almost unerring harbinger of safety to my patient. The presence or effect may be readily discovered by the pulse, the gums, or the breath, before ptyalism takes place. This latter ought to be avoided, as troublesome and unnecessary; but the facility with which some constitutions are affected, will at times baffle the most cautious treatment.

In such cases as will not admit of the mercurial treatment, I have derived much benefit from free and continued purging. It was the observation of nature, that led me to this course. I had observed that persons seized with a diarrhœa, or even cholera morbus, generally escaped a run of fever; and instead of checking a lax, I promoted it, especially in the autumnal months, and when nature seemed reluctant or defective, the aid of art, was called in. In the variety of medicine used for this purpose, I found the most benefit from a solution of the sulphate of soda in cinnamon water, with a small quantity of tartarized antimony, desiring the patient to drink plentifully of barley or tamarind water.

The patient, instead of being exhausted by a course of purging, will find his strength increase. This I have experienced in many instances, one of which I will take the liberty of mentioning.

In 1814, a militia man from Montgomery county, contracted endemic fever at Sacket's harbour. On his return, unable to proceed, he stopped in the vicinity of Utica. I found him worn out with disease, his eye yellow, countenance bad, pulse rapid, tendons playing, and a slight delirium. He had also the fluxus castriensis, but was unable without assistance, to walk to the stool. I left him twelve powders composed of camphor, nitre, calomel, and a small quantity of tartarized antimony. Being called to a distance, and detained, I did not see him again till the expiration of thirty-seven hours, when I was not a little surprised to find my patient sitting at supper, apparently in health, and eating with tolerable appetite; the delirium and subsultus had disappeared, and he was able to walk without assistance. The directions had been religiously followed, a powder every second hour, although every dose had in 10 or 15 minutes operated as a powerful cathartic. Had I been present, the medicine would not have been continued, and probably the person would not have been able to proceed as he did next morning for his home.

In the Annals of Medicine, Vol. I. Dr. Brice states that he has often seen a man carried out perfectly delirious, with subsultus tendinum, and in the state of the utmost apparent debility, who after one or two copious evacuations of this kind, has returned of himself, composed and astonished at his newly acquired strength.

To the justice of Dr. Hamilton's remarks on the use of purgatives in fever, I could bear the most ample testimony, and it was with great satisfaction I first perused his excellent work.

Where no objection exists, the preference should be given to calomel as a cathartic; in many cases it is the only medicine that can be employed for that purpose, as the stomach will, from excessive irritability, reject every other, but seems incapable of raising this, and if given in moderate but repeated doses, it will find its way along the intestinal canal. The catharsis must be kept up, till the dark fæces are replaced by

those of a more natural colour, and should the system in the meantime afford obvious signs of being duly imbued with the mercury, that medicine should be omitted, and other laxatives used, as the neutral salts in an infusion of senna, the ol. ricini, or a preparation of the croton oil.

It will be understood, that it is only at the commencement of fever, that we strongly advocate the mercurial treatment; after a certain period the system appears to become insensible to this medicine, and toward the latter period it seems injurious. When the febrile action has subsided, and the fur disappears from the tongue, the strength of the patient must be supported by wine, and for this purpose genuine Madeira is the only suitable kind; in a short time to this may be joined the cinchona, either in decoction, or in the admirable form of the sulphate of quinine, united with some pleasant aromatic, as cinnamon. After endemic fever, there is generally a voracious appetite, and more relapses occur from over eating than from any other cause.

In illustration of the treatment I prefer, in the case of strangers from healthy districts, when exposed to endemic fever, I will state a case which occurred in my practice. On the 10th September, 1815, I was called to visit a young man of a full habit and robust form, who had never been sick before; he had just returned from the Cayuga marshes, having been a boatman on the Seneca river. His face was flushed like scarlet, eyes red, terrible head-ache, and full bounding pulse. A vein was opened in the arm, and nearly two and a half pounds of blood flowed before he grew faint. He now took a full dose of calomel and jalap, but the heat and re-action re-appearing in about an hour, he was placed on a chair before the door, and two buckets of water from a spring poured through a sieve on his head; the shock was great, he went to bed with a chill; orders were given to repeat the effusion, should the heat return; next morning he was evidently better, had got some sleep, but the skin being still hot, and the pulse rather strong, twenty ounces more were drawn from the arm, and in about an hour after, the

cold effusion repeated, and strict orders were given to repeat it if the skin became hot and dry, his cathartic had operated, and he continued to take lessened doses. On the third day he was convalescent, and the mercury stopt.

In several cases which appeared, similar to that stated, I have found much benefit by opening the temporal artery, and allowing twenty or thirty ounces of blood to flow: but this quantity will not be obtained without the caution, not to cut off the vessel, till you wish the flow to stop. Where there appears much determination to the head, sixteen ounces taken from the artery will give greater and more immediate relief than double the quantity from the arm, and avoid the danger of inducing debility by repeated venesection at the arm. I have found arteriotomy particularly useful in those attacks where the danger arose from the fever assuming a typhoid state. It will often remove the oppression on the brain, and does not exhaust the strength. When a European, or a native of New-England, on his arrival during the summer or autumn, at a place subject to endemic disease, is attacked with a fever, a free use of the lancet is indispensable. The re-action must be kept within bounds, or some vital organ will be irrecoverably destroyed; but this must not be resorted to till the state of re-action commences, either by the efforts of nature, or the aid of medicine.

In the third or last division which may be justly denominated malignant, where the state of the patient and the power of the agent combine to entitle the case to that appellation, we meet with disease in some instances where the powers of life succumb to the overwhelming forces of the agent, and nature yields without a struggle. These cases are marked with a feeble pulse, a difficulty in breathing, an intolerable agony and oppression at the breast, a purple hue on the surface. Under these circumstances, our first indication is to rouse the energy of the system, and to restore nervous sensibility; for this purpose the warm bath holds the first place, to be followed by friction with volatile liniment combined

with tincture of cantharides, and at the same time exhibiting internally doses of sulphuric ether, alternated with potions of calomel and jalap, occasionally assisted by enemata. If we are so fortunate as to arouse the vital energy and induce a brisk catharsis, we may entertain some hopes of the recovery of our patient; the calomel ought to be continued, and the catharsis kept up till the evacuations lose the dark hue, and the appearance of mercurial action in the system affords reason to believe that the disease is conquered. In these low or sinking cases the lancet is a dangerous expedient, and I have witnessed fatal effects from its use.

In other instances of this class, after a slight chill, or only a crawling sensation of cold, in stout and robust habits, a violent re-action commences, and if this is not immediately moderated, some organ essential to life is irreparably injured. Those which most frequently suffer are the head and stomach.

Should the brain be threatened, which may be known by the deep flush of the face, the redness of the eyes, beating at the temples, intense head-ache, and not unfrequently delirium; the temporal arteries ought to be opened, cupping or leeches applied to the temples, the cold effusion repeatedly used, the head shaved and cold, or, if procurable, iced water kept on the head, and calomel freely exhibited. Should the stomach appear to be the organ in danger, copious depletion at the arm, cupping or leeches at the epigastrium, followed by an extensive blister over that region; and here the tepid or cold bath might be preferable, and mercury introduced by friction on the surface, the blue pill by the stomach, or even by enema.

In the course of this and my former address, I have submitted to you the result of many years' experience and observation on the subject of endemic fever. Whether it appears in a ship, from a decaying cargo or foul hold: has its origin in the filth, and narrow unventilated lanes of a city: in the accumulation of that filth among the basins, slips, and docks of a sea-port, from the perishable materials on which new streets are founded: or shows itself among the ponds, marshes, and stagnant pools of the interior—the cause is the same; and

will be found accompanied by vegetable or vegetable and animal putrefaction. To induce or promote this process, heat and moisture are the principal agents; hence it prevails most in those countries where these agents operate powerfully, and find pabulum to act on. The effects are so varied by the idiosyncrasy of the individual, and the intensity of the agent, as to induce some respectable physicians to make distinctions where there is no difference. Had I only seen endemic fever as I met with it on the well cultivated banks of the North River, where, among the intermittents and mild remittents, erroneously called bilious, I do not remember to have seen a yellow skin during a residence of six years, I might have thought that the city endemic was a different disorder.

But having witnessed its effects in a district where the agent was much more powerful, I cannot agree to the distinction made; and I can positively affirm, that if the fever which prevailed in New-York during the summer and autumn of 1795, was yellow fever, then yellow fever is identically the same as the endemic fever of the interior; many cases of which latter I have seen more rapidly fatal, than several which were pointed out to me in the city as genuine yellow fever. Why a cause of equal intensity should operate differently in the air of the city, I cannot see. The symptoms pointed out as characteristic and distinctive of yellow fever, are exactly those most frequently found in the fatal and malignant cases of country endemic. For the truth of this, I might appeal to every gentleman who has practised in a country subject to endemic fever: but instead of detaining you on this topic, I will refer you to the writings of Lancisi; the almost innumerable facts recorded in the Medical Repository; the investigations of Doctor Bancroft; the statements of Drs. Musgrave and Ferguson; those of the veteran Jackson (not of the West Indies, as the Medical Recorder has it); Dr. O'Halloran; an excellent memoir by Professor Potter of Baltimore; the opinion of Dr. Rush, who so sincerely regretted having ever entertained or published his first erroneous doctrine; and, lastly, that excellent essay of Dr. Cooke, contain-

ed in the 27th Number of the Medical Recorder. The idea of contagion and importation is now so completely abandoned, that it would be an act of supererogation to dwell on the subject. Yet I cannot forego the opportunity of testifying the pleasure and satisfaction with which I perused observations on the fever that appeared in our capital, during the season of 1822, by our colleague, one of the editors of the New-York Medical and Physical Journal, No. VIII. It appears to me that no mind can be so callous, no bigotry so fixed, as to resist the incontestable facts, the clear, sound, and logical reasoning founded on them, and still believe that the fever, which afflicted the citizens of New-York, was contagious, either in, or beyond the infected district. It appears to me that the contagionists must henceforth abandon their dernier resort, their strong hold, the infected district, or consent to be considered as labouring under a state of hallucination, which all the hellebore in the union could not cure.

When we look forward to the future destiny of our capital, we cannot but esteem the question of the origin of yellow fever as a subject of the deepest import, and consider every elucidation on this point, as an accession to sound philosophy and the cause of humanity. We have therefore read with great pleasure, an Essay on Epidemics, by the scientific editor of the Philadelphia Medical Journal. The learned professor rejects the idea of importation and contagion, and ably contends for the domestic origin in vegetable and animal putrefaction. The acknowledged talents of this gentleman give no small value to his opinion. We stated, some years ago, that it would be from American physicians that the profession would receive correct information on this subject.

It must appear evident to any man capable of reasoning, that a city favourably situated, may be kept more healthy than an equal extent of surface in the country. In the former, putrescence may be at all times prevented; in the latter, vegetables must grow, and will occasionally decay. For several seasons there has been less sickness in Philadelphia than in

the adjacent country. Charleston in South Carolina has long been the summer residence of the planters.

I know of no place so capable of being made conducive to health and longevity as the city of New-York, if under a judicious and strict police, and well supplied with wholesome water; for, as our excellent first magistrate justly observes, "without good water, there cannot be good health." Water is essential to cleanliness, and this constitutes the best guarantee against sickness.

ART. II. *An Account of the Small-pox, Modified Small-pox, and Chicken-pox, which prevailed in the City of Albany, during the months of February, March, and April,* 1824; *with Remarks upon the identity of these diseases, and upon the anti-variolous power of Vaccination.* By LEWIS C. BECK, M. D. Lecturer on Botany. Albany, New-York.

THE diseases which form the subject of the following remarks, have, for the last few years, excited much attention among medical men, both in Europe and America. In the course of their investigation, many questions have arisen, which are full of interest to every individual of the community. Entertaining an opinion, that no facts which have the least bearing upon them should be concealed, I have been induced to present to the public the results of my observations.

During the months of February, March, and April, 1824, small-pox, modified small-pox, and chicken-pox, prevailed in our city to a considerable extent; and, through the liberality of my fellow-practitioners, I had an opportunity of visiting most of the cases from day to day, and of noticing their commencement, progress, and termination. A few, however, escaped my notice, and of these I obtained authentic accounts from the physicians in attendance. Thus, from my own notes, and from those which have been furnished me by other medical gentlemen, I am enabled to present a history of nearly all the cases which occurred during that time.

In the record of these cases, I shall, as much as possible, study conciseness, and shall only detail those which are interesting in themselves, or which are thought to have a bearing upon the remarks which follow, concerning the identity of these diseases. I shall afterwards offer a few observations upon the anti-variolous power of vaccination.

Before proceeding to the immediate object of this paper, it may be remarked, that during the summer of 1823, a few cases of small-pox occurred in this city, which were said to have been introduced from Canada. They, however, excited no alarm, and the disease shortly disappeared. During the autumn, chicken-pox was also somewhat prevalent, and it was observed at intervals during the months of December and January. But, considering these as ordinary cases, I paid no attention to them at the time, nor have I since been able to obtain any correct account of them.

The first case of genuine small-pox which occurred during the winter, was that of John Johnson, alias Martin, a coloured man, aged 25, who resided in Pearl-street (southern part of the city). Eight or ten days previous he had been on a visit to New-York, while the disease was prevailing in that city. He was attacked on the 27th of January, with pains in the head, back, and limbs, nausea and vomiting. His pulse indicated much febrile action. On the 30th, a numerous, though distinct eruption appeared on his face, and gradually extended to the body and extremities. On the 2d of February the eruption became pustular and confluent, and the patient complained of great soreness of the throat. 6th, (eighth day of the eruption,) the eruption was complete, and the fever was assuming the typhoid type: the patient was almost entirely deprived of sight. 7th, (ninth day of the eruption,) a brownish crust began to appear on the pustules, and they discharged large quantities of fœtid matter. This discharge continued for several days, and such was its acrimony, that nearly all the pustules on the face were united into one. Large patches were also formed in a similar manner on the body and extremities. During all this time the soreness of the throat and

the blindness continued. On the 14th of the month (sixteenth day of the eruption) the scabs began to fall off, leaving deep, irregular pits, and the patient gradually recovered.

This individual had not been in any way protected. It is worthy of remark, that the wife of the patient escaped the disease, although she was unprotected until the day the eruption appeared on her husband, when she was vaccinated.

The next case of small-pox was that of a lad, seven years of age, residing in Lumber-street, in the northern part of the city, about a mile from the former. He was taken ill on the 3d of February. For two or three days the stomach and bowels appeared to be the only parts affected. Every thing taken into the former was instantly rejected, while the latter were obstinately costive. On the third day an eruption appeared, which in a few days became pustular and confluent: it was attended with much fever. On the 12th of February, (eighth day of the eruption,) the pustules on the face began to dry up, but on the body the whole cuticle scaled off. Typhoid symptoms now supervened, and the case terminated fatally on the 15th.

This child had never been in any manner protected. He contracted the disease, as it was thought, by visiting a boy who resided in this street, and who had, a short time previous, while afflicted with small-pox, removed hither from the vicinity of Troy. There were five other children in this family, who had never been properly protected until the eruption appeared on the child above mentioned, when they were all vaccinated. Not one of them became affected with small-pox. Here, then, is conclusive evidence of the value of vaccination, even after exposure to the contagion of small-pox.

The three cases which I am now about to detail, have been the cause of much dispute among the physicians; some contending that they were cases of genuine small-pox, others that they were not. The principal ground upon which the latter rested their opinion was, the difficulty of ascertaining from whence the contagion originated. They were all strangers, recently arrived in the city, and had taken lodgings at a small

inn in Pine-street, near the Academy Square. I am induced to believe, however, that after the history of these cases has been given, and a few facts stated, there will be but little difficulty in settling their true nature, or their origin. I regret exceedingly that I had not an opportunity of visiting them; but the accounts of them which I am about to give, were communicated to me by Dr. Church, who visited them frequently during their illness.

——— Cutter, aged sixty-three, was attacked on Thursday, the 12th of February. The night previous, he had been out late with his companions, and when he arrived at his lodgings, the doors were closed; and being unable to get admittance, he went to a barn, where he remained during the night. When he awoke in the morning, he complained of being unwell; said he had severe pains in his loins and a sore throat, which he attributed to his exposure to the cold.

On Monday the 16th, (the fifth day of the attack,) when Dr. C. first saw him, his face was of a deep crimson colour, and very much swollen; eyes red and watery, and nearly closed, from the swelling of the face. On his neck were observed two or three small papillæ, with a little whitish fluid in their apices. On his trunk and extremities was an efflorescence, which appeared in distinct and irregular patches, nearly resembling that of scarlet fever. His respiration was a little laboured, and somewhat quicker than natural, attended with a rattling in his throat. He expectorated copiously and easily; the fluid resembled pus, and seemed to be secreted about the larynx and upper part of the trachea. Notwithstanding his expectoration was so free, it gave the patient very little relief, as there was an immediate re-collection of matter. In addition to these symptoms, he complained of soreness of the throat, feet, and palms of the hands: tongue loaded and clammy; pulse but little accelerated, soft, and rather weak.

Tuesday, 4 o'clock. The patient's face remains swelled as yesterday, but it has assumed a purple hue. On the end of the nose the cuticle is detached, and an effusion of a dark sanious fluid appears. This part had been white, as if frost-

bitten, when the rest of his face was of the deepest red. An effusion of bloody serum has now commenced on different parts of the body and extremities where the efflorescence appeared, and has raised the cuticle into large bullæ, from the size of a sixpence, to the extent of two or more inches in length and an inch in breadth. Pulse quick and weak; respiration short and laborious, attended with rattling in the throat, from the accumulation of matter in that part, and which he is now unable to throw off. He is in a deep coma, from which he cannot be roused without much difficulty, and when roused, is unable to articulate. He died at 5 o'clock.

——— Warner, aged thirty-seven, was taken ill on the evening of the 16th of February. The first symptoms were those of a catarrh, accompanied by pains in the head, back, and loins. Nausea and vomiting occurred several times during the course of the night. The next day the symptoms were much abated, and the patient was greatly relieved.

Friday, 20th of February. The patient is sitting up, and is able to walk about the room. There is a numerous eruption of small papillæ over the whole body, which are partly filled with a whitish fluid. The eruption is most numerous on his face where it first appeared. Pulse about 70, soft and weak; respiration natural; tongue moist and furred; skin of its natural temperature.

Saturday 10 o'clock A. M. The eruption is less prominent than yesterday; the apices of the papillæ are flattened, and the cutis over them loose and flabby; pulse about 70, and very weak; tongue covered with apthæ. A tremor of all the limbs, and alienation of mind.

He was removed from the city in the afternoon, and died the same evening.

——— Church, aged forty, became indisposed on Tuesday the 17th of February. Dr. C. visited him at 3 o'clock on Friday, and at this time his face was red and much swelled; eyes suffused and inflamed; pulse somewhat accelerated, full and soft; respiration hurried; tongue moist and clammy. Petechiæ were observable on different parts of his body, and

extremities, and ecchimoses, as if he had been bruised, or severely pinched.

Saturday, 2 o'clock P. M. The swelling of his face has subsided, but he assumes a cadaverous appearance. Cuticle detached in various parts. Petechiæ increased in number and extent, and are of different colours; some being light purple, some brown, and some nearly black. Tongue trembling when put out; tremors of the limbs; mind confused. There was also a slight papillar eruption on his neck.

The patient was removed the same day with Warner, and died the succeeding night.

It should be observed that these persons were all of irregular and intemperate habits.

From a review of the history of these cases, the symptoms appear to be similar to those of malignant small-pox; and their malignity may be accounted for when we take into consideration the ages and habits of the patients. Other circumstances also had a powerful effect in aggravating the disease; such as the confined state of the air of the room, and the repeated use of brandy and other liquors, during the first days of their illness, and before any physician had been sent for. It was thought by some of the physicians who visited these individuals, that the eruption was different from that of small-pox, and that death ensued much sooner than is usual in that disease. But it has long since been remarked by writers upon small-pox; that the degree of its malignity depends greatly upon the disposition of the body to which it is applied. We have in the cases above detailed, most of the characteristic symptoms of small-pox; a genuine papillar eruption appeared in every case, but it was slight, and the petechiæ which supervened prevented them from proceeding to maturity. Cases of a similar kind have been recorded by many writers upon this disease. The following remarks from Van Swieten's commentaries upon Boerhaave are in point. After observing what a bad omen the purple spots which appear in the place between the pustules are to be held, he adds, "Hence Sydenham condemned them, as almost always the

forerunners of death; as they betoken a gangrenous disposition in the blood, and have never been found to accompany any small-pox but such as proved in the event of the worst kind. He has, however, known them to vanish, when they proceeded merely from the excessive feverish hurry of the blood, as soon as that hurry was checked. We have another case, in which a patient, who had these spots upon him, recovered notwithstanding. After all, it is the general opinion amongst physicians, that these spots indicate a very dangerous disorder; and, in the variolous fever, *such spots have been observed, even before the small-pox pimples themselves made their appearance; and the issue was a speedy death.*

"There sometimes break out, intermixed with the small-pox pimples, miliary exanthemata, both red and white. Though no eruptions of this kind can be reckoned among the good signs, and are an addition to the already sufficiently troublesome symptoms of the small-pox; nevertheless, as these exanthemata are no signs of a gangrene, we need not be so much alarmed at them as at the purple spots; accordingly I have seen several persons who had them in the small-pox recover notwithstanding."—*Van Swieten's Commentaries upon Boerhaave*, Vol. XV. pp. 187, 8. Edinburgh edition.

From the above, it follows that miliary exanthemata, purple spots, &c. are frequently observed intermixed with small-pox pimples, and sometimes even before these have made their appearance; and that when purple spots appear, the disease is speedily fatal. Quotations might be made from other authors to prove the same fact, but that which I have already introduced is supported by such illustrious names, and so completely answers the objections which have been made against considering the cases which occurred in Pine-street as small-pox, that it would be unnecessary.

In addition to the remarks which have been made in relation to the symptoms which characterized these diseases, it may now be added, that neither of the patients had been in any manner protected against an attack of small-pox—that in the house where they lodged, a girl of about seven years of

age had a short time previous been ill with a disease which some physicians named small-pox, and others chicken-pox—that one of the individuals who perished had recently arrived from an adjoining town where small-pox was then prevailing—that an unprotected person from the county of Saratoga, who lodged in this house during this time, was upon his return home taken ill with small-pox, which terminated fatally in the course of a few days—and lastly, that a person who was frequently in Ferguson's house during the illness of Cutter and the others, communicated small-pox to a family in Washington-street, which, in one of the members, an infant, terminated fatally.

I have been thus minute in noticing the symptoms and other circumstances attending these cases, because they have been, as I have previously remarked, the subject of much dispute amongst the medical gentlemen of our city. The facts I believe have been correctly stated; and if so, there cannot remain a doubt that the disease was small-pox.

From the middle to the end of the month of February, there occurred in different parts of the city six cases of small-pox, modified by previous vaccination or inoculation. Five of these could be distinctly traced to one or other of the cases already detailed. They were nearly uniform in their character, and were all similar to those described by authors. The following case is a fair specimen of the whole.

F. Browning, aged 21, residing in Beaver-street, was attacked on the 22d of February with pains in his back and limbs, nausea, and vomiting, accompanied with high fever and delirium. On the third day, an eruption resembling flea-bites broke out first on the face, and afterward on the body and extremities. The head-ache and delirium still continued—eyes suffused—tongue furred—skin hot and dry—pulse frequent—stools black.

25th. (Second day of the eruption.)—The symptoms are but little relieved. The eruption is in some places becoming pustular, in others vesicular.

27th. (Fourth day of the eruption.)—The eruption continues about the same—the bases of the pustules, however, are somewhat inflamed. The patient still complains of pain in his head, and he is occasionally delirious.

29th. (Sixth of the eruption.)—Fever much abated. The pustules on the back and extremities begin to be covered with a horny scab; those on the head and face are very painful. Tongue, which has heretofore been very foul, becoming clean.

March 1st. Symptoms much relieved. Eruption on the face drying up.

I have already remarked, that five out of the six cases of modified small-pox which appeared during the latter part of this month, could be traced to the contagion of small-pox. In the other, it was produced, as I am led to believe, by the contagion of chicken-pox. But I will not hazard this assertion without stating the facts upon which it is founded.

On the 12th of February, a child of Mr. E. Russel, residing in Pearl-street, in the central part of the city, began to complain of head-ache and pains in her limbs. She had some fever. On the third day, an eruption appeared on her face, and it gradually extended to the back and lower extremities. It was distinct and vesicular, but was attended with some inflammation. It completely disappeared about the eleventh day. This child had not been at all protected, and the appearance of the eruption, and the nature of the attending symptoms, were such as would at any other time have marked it as a case of chicken-pox.

In the same house, a sister of the above, seven years of age, was attacked in a similar manner, a day or two afterwards. The eruption was accompanied with a violent fever, and the symptoms were in every respect more aggravated than in the former case. The eruption on the face disappeared about the eighth or ninth day, but on the lower extremities it advanced slowly to maturation, coalesced, and formed large sores, upon which crusts were formed about the twelfth or thirteenth day, leaving in some instances large and deep

pits. This child, as I have already remarked, had been previously vaccinated, and had not, to the knowledge of her parents, been exposed to the contagion of genuine small-pox.

The three following cases differ greatly in their character.

——— Wilkinson, aged 21 years, residing in south Pearl-street, opposite to the house where two persons were ill with modified small-pox, was seized with pains in his head, back, and limbs, and nausea, on the 28th of February. Pulse frequent—tongue furred.

On the 1st of March, a very numerous eruption appeared, which in every respect resembled that of genuine small-pox. The pulse remains about as on the first day of attack—skin hot and dry—eyes red—face somewhat swollen and painful.

2d.—The eruption becomes pustular and indistinct. The patient is delirious at intervals, and complains of great soreness of the throat.

This case continued with little alteration in the fever or other symptoms until the 8th of March; (eighth day of the eruption) when the pustules were filled with an opaque matter, and were somewhat indented. They were indistinct on the face and upper extremities, where suppuration was now commencing, which occasioned the fœtor so characteristic of this disease. The face was much swollen—pulse weak and frequent.

On the 9th, typhoid symptoms appeared, which soon wasted the patient's strength. He died on the 11th of March.

This individual had been vaccinated when an infant. He had a cicatrix on his arm, but it was somewhat large and irregular.

Mrs. McDole, aged 25, residing in the house with Wilkinson, was seized with the usual symptoms of small-pox on the 16th of March, eight days after the death of the latter. On the 19th, a few small pimples with inflamed bases appeared on her face and body; attended with soreness of the throat, head-ache, and fever.

On the 20th, the pustules on her face were perfectly formed, and some of them contained pus—those on the extremities were yet small, hard, and red.

On the 22d, the pustules began to dry up. Some of them were indented in the centre. A slight head-ache continued for a day or two, after which the patient was entirely restored to her former health.

This female had been inoculated with small-pox matter when about two years of age. Several pits were to be observed upon her face and limbs.

An infant child of Mrs. Geer, in Pearl-street, nearly opposite the former, became restless and feverish on the 19th of March. On the 22d, a few vesicles appeared on her body and face, which the next day were filled with a transparent fluid. Her eyes were somewhat inflamed, and intolerant of light. On the 24th, the greater part of the eruption was drying up. A few new pimples, however, afterwards appeared on the arm.

This child had been vaccinated. The case was said to be one of chicken-pox.

During the last week in March, three cases of genuine small-pox appeared in this vicinity, in two of which it was of the confluent kind, and terminated fatally.

While these diseases were thus extending in the southern part of the city, they were also raging in the opposite direction.

At Morison's, in North Market-street, a boy, nine years of age, was seized with the usual symptoms of small-pox about the 6th of March. On the third day, an eruption of small pimples broke out upon the face, body, and extremities, accompanied with high fever and delirium. In the course of three or four days, the eruption became pustular, and these alarming symptoms abated. On the 8th, the pustules were large, and were filled with pus. They now began to suppurate, and the consequence was, that they became coherent in many places, and formed large irregular crusts.

On the seventeenth day of the eruption, when I first saw him, he was labouring under secondary fever. Large brownish crusts were yet to be seen on many parts of his body and face. On the extremities most of them had fallen off, leaving

superficial pits. Some redness was still to be observed about the bases of the scabs.

This boy was not in any way protected. He had probably been exposed to the contagion in Lumber-street.

Three children in the same house, between the ages of five and eight years, sickened about the 25th of March with the ordinary symptoms of small-pox. In the two youngest, the disease passed through its course nearly similar to the former. But in the eldest, the eruption was of the confluent kind, and all the symptoms were much more aggravated. The two former recovered, but the latter perished about the fourteenth or fifteenth day. Owing to the prejudices of the parents, neither of these children were protected.

The son of John Miller, aged nine years, residing in Fox-street, was taken with dizziness and vomiting on the 25th of March. Next day, these symptoms were accompanied with pains in the back and limbs, high fever and delirium. On the morning of the 28th, a few red pimples made their appearance on the face, back, and extremities.

30th. The eruption becoming pustular; pustules with slightly inflamed bases—distinct—skin hot—pulse 85.

This child passed through the disease in the usual way. On the ninth day of the eruption, the pustules were beginning to be covered with brownish crusts. When these fell off, which happened about the thirteenth day of the eruption, there was found beneath them a small indentation in the skin. This patient had secondary fever.

This boy was not protected. He had been at school, at the time when a child was ill with modified small-pox in the same house.

Another child in this family, aged nine years, who had been vaccinated nine days before, and who had a well characterized pock, sickened about two days after the above, with pains in the back, limbs, &c. On the second day, about sixty or seventy pimples broke out on the face and body, some of which arrived at maturity during the next day. They all disappeared on the third or fourth day.

Another child, younger than the above, also recently vaccinated, was similarly affected about the same time. The eruption, however, was less numerous, and it disappeared totally on the third day.

Mrs. Miller herself, who had been vaccinated many years since, and who had a well characterized cicatrix on her arm, became quite ill with sickness at the stomach, and pains in her limbs. One or two vesicles appeared on her arm on the third day. They, however, disappeared on the sixth, and left her in her usual good health.

On the 26th and 27th, two children of Sybrant Kittle, residing in the same street, were similarly affected. They had both been at the school above mentioned. One of these had not been protected, and he passed through the small-pox in a very mild form. The eruption was distinctly pustular in both, and the pustules were indented about the eighth day. One of these children had been vaccinated, and upon him the eruption was less numerous, arrived at maturity much sooner, and about the sixth day began to dry up. The fever, and other attending symptoms, were also much less violent.

Several other cases of small-pox and modified small-pox occurred in this vicinity during the month of April; but they were generally such as have been already detailed, and none of them were characterized by any striking peculiarities. With the exception of two fatal cases of small-pox, all those who were taken down recovered after a few days' illness.

About the beginning of May, the Board of Health, alarmed by the extension of this loathsome disease, established a Lazaretto a mile south of the city. To this place all the cases which subsequently occurred amongst the poor, were immediately conveyed. By this means the progress of the disease in the city was greatly arrested, although it still occasionally appeared during the summer and autumn.

From a review of the whole, it seems that the small-pox appeared nearly at the same time in the northern and the southern part of the city; and that nearly all the cases which occurred, whether of small-pox, modified small-pox, or chick-

en-pox, could be traced to one or other of these. New centres of contagion were afterwards formed in Fox and State streets. In each of these neighbourhoods there were cases of what were called genuine small-pox, and modified small-pox, and in four or five instances, chicken-pox. Each one of these cases could be distinctly traced to the contagion of small-pox. Thus in South Pearl-street, one person died of a very malignant small-pox; several others in the same vicinity were taken down with modified small-pox; and, lastly, a child sickened, and had a slight vesicular eruption, which was named chicken-pox.

These facts prove to us almost conclusively the identity of these diseases, for they were all produced by one and the same cause, viz. the contagion of small-pox. The same thing also occurred in Fox-street, where every possible variety of variolous and varicellous disease was observed to have originated from the same contagion. In this instance it was introduced by a child, who had a mild attack of modified small-pox. The cases which occurred in State-street, are perhaps more conclusive on this subject than any others, and I have purposely omitted to mention them until the present time.

During the prevalence of small-pox in other parts of the city, Mr. Wilkes, vaccinated, residing in State-street, near the capitol, passed through a disease which was pronounced by the physicians to be chicken-pox. The fever was very slight, and the eruption distinctly vesicular, and disappeared in four or five days.

In the same house were three children, all unprotected; and here was now offered an excellent opportunity for testing the identity of small-pox and chicken-pox. The attending physician, either supposing that no benefit would arise from vaccination at this time, and wishing, perhaps, to test the correctness of the theory, left them unprotected. They continued for nearly two weeks in perfect health, and the opposers of the doctrine began to think that they were about to gain a splendid triumph. About the fifteenth day, however, they all sickened, with pains in the back, head, and limbs. A

papular eruption appeared on each about the fourth day, which in every case became pustular; and the disease, although varying in its severity, was in each well characterized small-pox. In each the eruption became pustular; in each it proceeded to suppuration, and in each there was secondary fever. I would ask, how are these facts to be explained, unless we grant the identity of these diseases? They are positive proofs in its favour, and are of more force than all the negative ones which can be advanced in opposition to it.

The difference in the violence of small-pox and chicken-pox can scarcely be urged as an objection to their identity. Several cases occurred which left the physicians in great doubt as to what name should be applied to them. Some had all the mildness of chicken-pox; a slight eruption only appeared; but this became pustular. Others again had all the symptoms of small-pox, but the eruption was vesicular. Amidst all this confusion, I have repeatedly asked the question: if these diseases are distinct, where is the line of separation?—where does chicken-pox terminate, and where does small-pox commence? I have as yet been unable to obtain a correct answer, nor do I expect one. Every variety of disease has fallen under my observation, from the mildest chicken-pox to the most aggravated small-pox, and these varieties passed into each other, almost imperceptibly, constituting a perfect series from the former to the latter. It is not my business to answer all the objections which have been urged against the identity of these diseases. So much has been written upon the subject of small-pox and chicken-pox, that it would require more time and talent than I possess. I have confined myself strictly to a notice of those facts which have passed under my own eye. When the disease first appeared, I commenced its examination unprejudiced. I had no theory to support—no doctrine to advocate. I determined to go to the bed-side—to watch carefully those cases to which I had access, and upon them to found my opinions in relation to the great questions which were agitating the medical world. I have done so; and without travelling to Europe, or to

other parts of our own country, I have here seen the contagion of chicken-pox giving rise to small-pox and modified small-pox; and I have seen the contagion of small-pox producing modified small-pox and chicken-pox. And if any reliance is to be placed upon the inductive mode of reasoning, the conclusion is irresistible—that at least here, if not elsewhere, these diseases were identical.

But a question of more importance to the community is—how far vaccination is to be depended upon as a preventive against small-pox? And upon this question the recent epidemic in our city afforded me the means of making numerous observations. It may be well to remark, in the outset, that it is now universally admitted that vaccination does not afford a perfect immunity against a subsequent attack of small-pox. The only point to be settled is—what is the amount of its modifying or controlling power? I know it has been asserted, that in those cases in which small-pox occurred after vaccination, it has been owing to the improper manner in which that operation has been performed. Yet the reports of the London vaccine board, and indeed all the recently written works upon small-pox, to some of which I shall hereafter refer, furnish abundant evidence that even the most genuine vaccine disease does not afford a perfect protection against a subsequent attack of small-pox. It is unfortunate that it should be so, and particularly when vaccination had passed the ordeal of the severest scrutiny, for several years, without the least diminution of reputation. It is true indeed that even the celebrated Jenner himself has noticed some cases where small-pox occurred in individuals who had previously passed through the vaccine disease. But these were extremely rare, and were looked upon as very rare exceptions to a very general rule. Recently, however, the number of these cases has increased, and the confidence of many physicians in vaccination has been destroyed. It is now found, that in England, one out of every four vaccinated persons, will, when exposed to the contagion of small-pox, contract that disease. The

proportion, although at present less in this country, appears by recent reports to be rapidly increasing.

However unpleasant these facts may be, truth warrants, and the public good demands their publication; for it is important that each individual should know how far he is protected against an attack of this loathsome disease.

When these facts in relation to vaccination were brought to light, many physicians were about to abandon it at once. The old prejudices in favour of inoculation were yet prevalent, and its advocates were ready to catch at any thing which should support its claims to superiority. But it was soon observed that many inoculated persons suffered a subsequent attack of small-pox, and it was even found that in some places where the disease prevailed, the proportion of such was greater than of those who were vaccinated.

It follows therefore that art does not furnish a complete protection against the attack of small-pox. And surely, if this be the case, no one in his senses will resort to inoculation, when it not only endangers the life of the individual upon whom it is performed, but renders him the centre of a contagion which may sweep off hundreds of his neighbours. No physician who regards his own reputation, or the public weal, could have the audacity to try an experiment so fraught with danger; and which would not place the individual upon whom it had been tried, a single remove in point of security above one who had passed through the mild process of vaccination.

It then becomes us to inquire what are the advantages of vaccination? And why should it still be resorted to? The discussion of the question will fully explain the amount of protecting power.

I have heretofore confined my remarks to, and have drawn my conclusions from the disease as it prevailed in this city. But the questions above stated are of a general nature, and for their complete elucidation, we must take a wider range, and present the facts which have been noticed where small-pox has prevailed to a more alarming extent.

I have already remarked, that when the modified small-pox first appeared, it was thought that the value of vaccination would be entirely destroyed, and this subject claimed the early attention of those authors who treated of the disease. A reference to some of these is therefore necessary to the accomplishment of the object which I have in view.

Dr. Alexander Monro of Edinburgh, in his work* on the different kinds of small-pox, and especially those which follow vaccination, published in 1818, after observing that it is his intention to give an account of that mitigated form of the disease, which follows vaccination, remarks, "I have been emboldened to give them" (the pages of his book) "to the public, under a conviction that the facts which they contain may prove useful, by tending to point out the greater safety of vaccination than that of small-pox inoculation; and by rousing those parents who have neglected to get their children vaccinated, to have recourse without delay, to that expedient, as the only certain means of insuring them against all the dangers attendant on small-pox." p. 2.

Again he observes.—"But though it cannot be denied that vaccination has failed to give perfect security against the small-pox, yet in cases where it has failed to do so, it has modified and mitigated that loathsome and dangerous disorder in a most remarkable manner, so that the small-pox, after cow-pox, can scarcely be said to form one of the class of mortal diseases." p. 25.

The value of these remarks will be duly appreciated when we take into account the high reputation of the author, and the great opportunity which the prevalence of small-pox, and its varieties in Edinburgh, afforded him for obtaining correct information upon this subject.

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* Observations on the different kinds of small-pox, and especially on that which sometimes follows vaccination. Illustrated by a number of cases. By Alexander Monro, M. D. F. R. S. E. Professor of Anatomy and Surgery in the University of Edinburgh. Edinburgh, 1818.

The report of the London Vaccine Board, made during the same year, (1813) fully corroborates the principles laid down by Dr. Monro; which states, "That vaccination still rests upon the basis on which it was placed by the reports of the several colleges of physicians and surgeons of the united kingdom, which were laid before Parliament in the year 1807. That the general advantages of vaccination are not discredited by the instances of failure which have recently occurred; the proportion of failures still remained less in number than the deaths which take place from inoculated small-pox. They are lead by their information to believe, that since the practice has been fully established, no death has in any instance occurred from small-pox after vaccination: That in most of the cases in which vaccination has failed, the small-pox has been *a disease remarkably mild*, and of unusually short duration."

Mr. Hennen in his account of the eruptive diseases which occurred in the military hospitals of Edinburgh, after noticing numerous cases of small-pox, and modified small-pox, observes, "The whole series of cases which I have given, present the most triumphant evidence in favour of vaccination, and place in a most conspicuous point of view, the infinite advantages to be derived from the process, when judiciously conducted."*

Again.—"So perfectly convinced am I of the preventing and modifying powers of the vaccine inoculation, that I should never hesitate about employing it, even though it were probable that my patient had imbibed the small-pox infection;

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* An account of the eruptive diseases which have lately appeared in the Military Hospitals of Edinburgh, both naturally and after inoculation, as they have affected children and adults, some of whom had previously had small-pox, some who had been previously subjected to the cow-pox, and others who never had either of these diseases. Communicated in a letter to Dr. Duncan, jr. By John Hennen, Esq. Deputy-Inspector of Military Hospitals for North Britain. Edinburgh Medical and Surgical Journal, Vol. XIV. p. 409.

nor should I be deterred from the practice, by the idle suppositions of the nurse that I was too late, or the learned objections of the doctor that two diseases could not co-exist; experience very clearly demonstrating, that there is still something in the mutual relation of these diseases to each other, that has not been yet satisfactorily explained." p. 456.

Dr. Thompson in his work on the varioloid epidemic which prevailed in Edinburgh and other parts of Scotland, remarks, "I have the pleasure to know, that in every instance in which, during the present epidemic, there has been even a single mark of vaccination having taken place, that the modifying power of cow-pock has been most satisfactorily demonstrated." p. 318. *Philadelphia edition.*

The facts which were brought to light in relation to this subject during the prevalence of small-pox in Norwich, England, perhaps more conclusively settle the efficacy of vaccination, and are therefore deserving of notice.

The small-pox had destroyed two hundred and fifty lives, before the attention of the citizens was directed to the means of its prevention. The deaths from this disease in one week had amounted to forty-three, and vaccination was beginning to languish; the failures after it being the gossiping and chit-chat of the day. A public meeting was therefore convened by the mayor, to consider the best means to stop the progress of the epidemic, and to promote the practice of vaccination amongst the poor. The result of this meeting was the forming of a committee, which in a few days obtained a census of the whole city, and the number still liable to the small-pox was found to exceed *seventeen hundred!* "The next step was to provide for the means of vaccinating those who required it. For this purpose all the medical men were summoned to meet together, and all of them with only one or two (perhaps unavoidable) exceptions, did attend; and, forgetting slight differences of opinion as to the exact degree of protection afforded by the cow-pox, all united in one conviction, *that vaccination was the best, the only reasonable means*

*to be adopted for checking the dreadful progress of the small-pox."**

Dr. Cross, after noticing a few cases of regular small-pox which occurred after vaccination, holds this language: "Had I blazoned them forth to the public, and at the same time withheld the evidence in favour of vaccination, which will be found in different parts of this work, I should have committed an injury for which I could make no adequate atonement; but I am not ashamed of the feelings which prompt me to relate them, nor apprehensive of the effects they may produce, being convinced that they can have no weight against the practice of vaccination, when compared with ten thousand vaccinated individuals living in the midst of a contaminated atmosphere, with five hundred and thirty deaths amongst little more than three thousand who had neglected to be vaccinated—and with the occasional occurrence of regular small-pox in those who formerly had the disease either naturally or by inoculation." p. 65.

If any doubts still remain of the value of vaccination, they will in my opinion be entirely removed by the following statement.

The author of the work just quoted addressed circular letters, containing queries in relation to the prevailing epidemic, to all the medical men residing in the vicinity of Norwich. The result was, that above two-thirds of all the medical men within a district comprising not less than three hundred and fifty thousand inhabitants, communicated to him their opinions. After the end of the year 1819, he continued his researches in every quarter where he heard of reported failures, up to May 1820; "and it is scarcely assuming too much to state," says he, "that it is probable this contains nearly

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* A history of the variolous epidemic which occurred in Norwich in the year 1819, and destroyed 530 individuals; with an estimate of the protection afforded by vaccination, and a review of past and present opinions upon chicken-pox, and modified small-pox. By John Cross, member of the Royal College of Surgeons in London, &c. London, 1820, p. 26.

every fatal case of small-pox which occurred during the epidemic in the country around Norwich in persons believed to have been vaccinated. The number is reduced to *one* who was attended during the fatal disease by the surgeon who vaccinated him; *another* vaccinated by an unknown medical man; and *three* by old women; and compared with the numbers vaccinated, and the great proportion of these which must, within the last year and half, have been exposed to the small-pox, we may regard it as a triumphant proof of the fatal effects of the latter disease being generally prevented by the cow-pox." p. 277.

Such is the mass of testimony in proof of the modifying or controlling power of vaccination, drawn from the observations of medical men in England. In our own country, the prevalence of small-pox has afforded great opportunities for testing the correctness of the opinions advanced abroad. So far as my researches extend, it is here generally agreed amongst medical men, that vaccination, if properly performed, has the effect of modifying an attack of small-pox, so as to render it a comparatively mild disease; and that in this respect it possesses advantages over inoculation, or even a previous attack of small-pox. In this city, not a single case has to my knowledge occurred which in the least degree detracts from the superior value of vaccination; on the contrary, the most incontrovertible proofs have every where appeared in its favour.

ART. III. REMARKS *on* MENSTRUATION: *being an attempt to show that the generally received doctrines on this subject are not only untrue, but inadequate to explain some of the most interesting phenomena connected with that process.* By JAMES R. MANLEY, M. D. President of the Medical Society of the State of New-York.

EVERY intelligent physician, whose attention is arrested by the publication of any particular point of medical doctrine, or the avowal of any interesting or consequential medical

fact, and who is at pains closely to examine the one or severely scrutinize the other, must have been frequently surprised to find both so feebly supported, as to justify him in withholding his assent from either. The assumed facts are oftentimes false, or detailed in such a manner as to have a deceptive character; while the reasonings from them, though they are matters of obvious inference, are not half so well calculated to elicit truth, as to involve their supporters in a labyrinth of difficulties, from which the utmost ingenuity cannot extricate them. Medical testimony, from its very nature, is liable to be defective; the results of observations which come to us in this form, are either seen in such a limited field of view, or so discoloured by prejudice or preconception: they depend upon such a multitude of minor, previous incidents, each operating with different degrees of strength, but all calculated to modify ultimate conclusion, that nothing but the most scrupulous exactitude will enable the inquirer to adjust their varied influences, or balance their conflicting evidence. It is in vain, therefore, that we regret the fallacy of medical fact, or make it the subject of querulous discussion; it belongs to its nature to be indefinite or obscure, unless in some rare instances where the premises being settled, the results are constant: in all others, both the interests of the science and our own reputation direct to a rigid examination of the facts, before we admit the inferences, upon which pride, prejudice, partiality, or even an honourable emulation in authors, would erect any new doctrines. It is to the superficial analysis of what are considered matters of fact, on the one hand, and to the mistaken confidence accorded to great names, on the other, that we must attribute that unceasing succession of medical theories which have amused or interested the medical public, each in its turn, as long as the charm of their novelty continued, or until the bases on which they rested were fully explored; in either of which events, they have sunk into that oblivion, which, if judged by their merits, all but their authors would have readily anticipated. These remarks, though not necessarily connected with this paper, have nevertheless so naturally sug-

gested themselves, that I have offered them as introductory. Whether they are appropriate or not, the reader will be the judge. They are certainly not more immediately applicable to it than to many other theories which might be made the subjects of criticism; but they will be found to receive ample confirmation in the sequel.

No one branch of obstetric science has received a larger share of the attention of medical philosophers, and certainly none has more puzzled the wits of anatomists and physiologists, than *menstruation;* and it will be one of my objects to show, that none has so little compensated the labour of all the varied and multiplied attempts which have been made, in order to its explanation. It would indeed seem, that deference to authority in some, and the indolence or indifference of others, had conspired to render the subject more obscure and unintelligible to us than it was to our ancestors two centuries ago, who, following the dictates of a plain common sense, thought it no sin to believe what they could not fully comprehend. If they were wrong in this instance, their faith did neither vitiate their practice, nor mislead the judgments of others; and that they were not far from being right, will appear probable as we proceed. In order to observe some method in prosecuting the inquiry, we will state first the opinions of some of the older writers; and we shall not travel far back, for two reasons—that we may avoid the ostentatious parade of old reading, of which we do not wish to be accused; and because we think that the world must have grown older to little purpose, if there still exists a necessity for recurring to ancient authorities for the explanation of phenomena which are of every day's occurrence, and which must be familiar to every observant practitioner. 2dly. The opinions now generally received and taught, and the data on which they rest. 3dly. Our objections to those opinions, deduced from observation and the information we have been enabled to collect. And lastly, Our own belief. If we indulge in speculation, the reader shall be fairly apprised of it; and that we may bring our paper within a reasonable limit, we shall be brief

wherever the necessity of the case does not require us to enter into detail.

The first head we shall dismiss with very few remarks, as it is not our intention to enter into a laboured analysis of the many speculations which have been offered to account for the periodical recurrence of the catamenia, nor even attempt to settle the differences which exist respecting the description of vessels from which they are derived. The nature of the matter of menstruation shall be the chief subject of our attention; as upon the disputed character of this point depend the fashionable doctrines which it is our business to controvert, viz. *that it does not coagulate unless it is depraved; that it is essentially different from blood; and, of course, that it is the product of a peculiar secretory process.*

The first writer whom I shall name is *Ambrose Paré*, whose celebrity as an accoucheur was without a parallel at the time in which he lived, and to whom in a great degree is the credit due of reducing midwifery to something like an intelligible science. He calls this discharge *blood*, and says that it is derived from veins. In the 49th chapter of his book *On the Generation of Man*, translated by his pupil, Thomas Johnson, he remarks:—" Usually they call the flux of bloud that issueth from the secret parts of women, monethly flowers or courses, because it happeneth to them every moneth so long as they are in health. There be some which call them terms, because they return at their usual time. Some call them purgations, because by this flux all a woman's body is purged of superfluous humours." And again, in chap. 50. " Because a woman's body is more cold, and therefore hath the digestive faculty more weak, it cometh to pass that she requireth and desireth more meat or food than she can digest or concoct. And because that superfluous humour that remaineth is not digested by exercise, nor by the efficacy of strong and lively heat, therefore by the providence or benefit of nature, it floweth out by the veins of the womb, by the power of the expulsive faculty, at its own certain and prefixed period of time. But then especially it beginneth to flow, and

a certain rude portion of bloud to be expelled, being hurtful or malign otherwise in no quality, when nature hath laid her principal foundations of the increase of the body, so that in greatness of the body she hath come as it were in a manner to the highest top, that is to say, from the thirteenth to the fiftieth year of her age. Moreover, the child cannot be formed in the womb, nor have his nutriment or increase without this flux."

Mauriceau, who lived nearly one hundred years after him, when the anatomy of the human body was more studied, and better understood, (we quote from Chamberlain's edition of his work, who may be presumed to have been of the same opinion, as he gives the passage without comment,) says, "The veins and arteries of the womb proceed partly from the spermatic vessels, and partly from the hypogastric: all these vessels are inserted and terminated in the proper membrane of the womb; the arteries convey to it blood for its nourishment, which being brought thither in too great abundance, sweats through the substance of it, and distils in manner of a dew into the vacuity of its bottom, whence proceeds the *terms* in a woman not with child, and the blood which nourisheth the fœtus when bigbellied. I say the arteries convey the blood, forasmuch as the circular motion, which is made continually in all living animals, shows us that they alone are capable of doing it, and not the veins, which serve only to re-conduct to the heart the blood which is not evacuated, after the manner aforesaid of the womb, nor consumed either in its nourishment, or the nourishment of the fœtus when the woman is big." And in his chapter on the *menstrual flux*, he considers a flooding to differ from it chiefly in degree: "When a woman voids blood downwards, (says he,) it must be carefully considered whence it proceeds, and in *what manner;* whether it is the ordinary courses, or a real flooding." The menstrual discharges which occasionally obtain, (pregnancy notwithstanding,) in healthy subjects, so far from being detrimental to the mother or child, he affirms are salutary, and when they are inordinate in quantity, they

are relieved or cured by vicarious evacuations, a practice which is successfully followed at this day.

Dionis, a distinguished French surgeon and anatomist, who lived about the same time, in describing the womb, says, "It is very thick at the time of the menstrual flux; for its whole substance being upon that occasion overrun with blood, is thereupon swelled and puffed up; but it falls upon the evacuation;" and again, when on the subject of its blood-vessels, "There had been no occasion for such a quantity of arteries, if they had only furnished the womb with blood for its nourishment. But they likewise import what is necessary for conveying the chyle to the fœtus, and pour in blood through an infinity of small branches upon the whole body of the placenta, in order to be sent through the navel string to the fœtus."—"When a woman is not with child, the same blood slips away through several small passages that open into the circumference of the bottom of the womb, and falls into its cavity, from whence it makes its exit through the vagina every month; and this is what we call the menstrual blood. These little passages are plainly visible in those who are dissected soon after child-birth, or in the time of the menstrual flux."

La Motte in his treatise on the menstrual flux, calls it a monthly evacuation of blood, and charges the derangement of this function as one of the causes of sterility.

Paul Barbette, an old Swiss writer, who has left us practical remarks upon a great many subjects of physic and surgery, denominates it a discharge from sanguineous and lymphatic vessels.

Hoffman offers his opinion on this subject very explicitly in the following extract from his tract on menstruation: "Excretio sanguinis ab utero, singulis mensibus, ob nimiam sanguinis in fœminis abundantiam et ob peculiarem fabricam, sanatatis et alendi fœtus causa fit.—Causa menstrui fluxus est nulla alia quam nimia sanguinis redundantia, optimo consilio ad sanitatem tuendam evacuatur;" and he has this remarkable scolium: "Variæ prostant de hujus fluxus causis in scholis

medicorum opiniones. Alii ad lunæ motum et mutationem, alii ad fermentum uteri peculiare, nonnulli ad *Helmontii* archæum seu corporis nostri rectorem quidam ad arcanam et sapientiam naturæ legem, eam referunt. *Nos reconditis et a communi sensu longissime remotis ejusmodi principiis penitus neglectis, ex re maxime obvia et simplici, sanguinis nempe plenitudine majori quam necessaria est, hujus fluxus originem ac causam repetimus.*"

Boerhaave, in aphorism 1290, thus expresses himself: "About the time that the body of a female is arrived at its full growth, it uses to make a greater quantity of blood in a good constitution than what the vessels will contain, which is the reason why part of it is let out at the ends of the arteries of the womb, which evacuation is called monthly courses, or the menstrua. From the blood thus penned up, we shall often see most surprising veins opened for a passage, marked down by the observators of the menstrua; for the same has been seen by physicians to force its way through at the eyes, ears, nostrils, gums, salivary glands, those of the gullet, intestines, bladder, heart, the skin, through particular wounds or ulcers: aphorism 1292. And in aphorism 1300, speaking of the diseases of pregnant women, he says, "Whereof some do proceed from the menstruous blood being hindered to separate, because of the closeness of the womb, and the fœtus not being yet able to consume the quantity conveyed thither for its nourishment."

That *Smellie* is of the same opinion, will sufficiently appear from the following passage: "The *catamenia* are no more than a periodical discharge of that surplus blood which is collected through the month, and toward the crisis, attended with pains in the loins, breast, and head more or less acute, according to the circumstances of the *plethora;* all which complaints gradually vanish when the *menses* begin to appear.

Haller, though he uses the term secretion when speaking of the menses, calls it a spontaneous hemorrhage, and acknowledges the difficulty of ascertaining whether it flows from veins or arteries.

Cullen believed them to depend upon a topical congestion of the blood-vessels; calls the materials, *blood;* speaks of the menstrual nisus as an hemorrhagic effort; and in no part of the theory which he invented to account for it, does the term secretion occur.

Baudeloque calls the discharge blood, and says, "if it does not always appear as pure as that drawn from the arm, it is because it is mixed with the humours of the vagina, or it is corrupted by its continuance in that canal." Of the pains attending it he remarks, "they depend upon the blood in the sinuses of the uterus, and the difficulty with which it escapes:" and further, "that the sterility of women who are entirely deprived of the menses, the suppression of that evacuation during pregnancy, and the process of lactation, sufficiently declare that it is not a *depuration*, but merely a *depletion*, and that that blood has a much more *precious destination*." We could go on from the notes before us to name many other authors who have recorded their opinions on this subject, from what they saw, and not from what they suspected or conjectured; but the catalogue would be too long, and the iteration very tedious. Almost every medical writer before the time of Hunter, and a large proportion of those who have written since, have taught this obvious doctrine; and although there are some who hesitate to embark in the discussion of a truth of which they are thoroughly convinced, from fear of finding themselves without their consent engaged in controversy, and who therefore state the opinions of others without risking their own; still it is, beyond a peradventure, certain that the balance of evidence, as it at this day stands recorded, is decidedly in favour of the old doctrines. With the reasonings of the above writers, we have at present nothing to do; they are of various value; some are worth more and some less, and perhaps all defective: but the declaration of the fact, that the discharge of which we speak is blood, derived as it obviously is, from the evidence of their senses, and requiring no extraordinary anatomical or physiological acumen to attain, is strong presumption that it is

correct. How far these opinions can derive confirmation from arguments adduced by those who have undertaken to controvert them, we shall presently endeavour to ascertain.

2. *The doctrines now generally taught.* It is not necessary to prove what is matter of common observation; every man at all conversant with medical reading, must have observed, that with few exceptions, all the late editors of obstetric works, whether authors or compilers, have attempted to render current the opinion, that menstruation is a secretion: that the material evacuated is essentially different from blood, and that sterility in married females, so far as the female is concerned, is in a great degree attributable to the derangement of this secretory process. The data on which this view of the catamenia rests, might be conveniently divided into two classes, as they have respect to the anatomical structure of the uterus itself, and as they are derived from the evidence of the material of which the menstrual discharge consists. The first set of reasons all depend upon the assumed fact, that the uterus is a gland; and the second is presumed to be amply supported by the sensible qualities of the matter evacuated. We will however briefly state them without reference to this distinction in the order laid down by Dr. Nath. Chapman of Philadelphia, who as a public teacher, has taught and defended these doctrines. It is asserted,

1st, That the uterus in its villous and vascular structure, resembles in some degree a gland, and also in its diseases, being equally subject to schirrhus, cancer, &c. &c.

2d, That like other secretory organs, blood is very copiously diffused through it.

3d, That by the arrangement of its vessels, it is evidently designed that the circulation should be retarded for the purpose of secretion. The arteries are not only exceedingly convoluted, but they are larger, and with thinner coats than their corresponding veins.

4th, That in common with other secretions, menstruation is often at first imperfectly done, and is subject afterwards to vitiation and derangement. At its commencement the dis-

charge is commonly thin, colourless, and deficient, and recurs at protracted and irregular intervals, with pain and difficulty.

5th, That in many of the inferior animals, during the season of venereal incalescence, there is a uterine discharge, which is undoubtedly a secretion. This answers seemingly the same end as menstruation, namely, to give to the uterus *an aptitude to conception.*

6th, That the menstrual discharge differs from blood, in being of a thicker consistence—in possessing a different odour—in having a much darker colour—in not separating into its constituent parts—in never coagulating—in being much less liable to putrescency, and in not affording the same results from analysis. If we have not enumerated all the differences presumed to be distinctive, it is because our information extends no further.

3. *Objections to these doctrines.* These are of too serious a nature to permit them to stand as points of support to any theory, and much less to one which is calculated to have such an important practical influence as that we are now considering. Those derived from uterine structure are not only not proved, but most unequivocally denied by anatomists; and to argue of structure from function, is at best but an ingenious mode of speculating, never admissible except in cases where the minuteness of parts renders demonstration impossible; and even if it were, it would be obviously unfair, where the function itself was the very point in dispute. The analogy attempted to be instituted between the uterus and a gland, on account of its liability to the above-named diseases, cannot be considered as possessed of any peculiar weight, so long at least as it remains doubtful whether the pathology of those diseases is well understood; for while this point remains unsettled, it amounts to no more than an argument resting upon an arbitrary name. That there are diseases of the uterus which prove rebellious to remedies, and are very painful, and that scirrhus and cancer are of that class, we know; but to conclude for this reason alone, (which, by the way, is all that appears,) that these complaints are scirrhous or cancerous, is

certainly to found a dogma on a very narrow basis; and to infer that, therefore, the uterus is glandular, is in fact to declare that no two structures are subject to the same diseases. The argument drawn from the number and arrangement of its vessels, though more specious, is little less objectionable. In the economy of nature the means are not only adequate to the ends, but they are the best that could possibly be devised to answer the purpose for which they are intended. The vessels of the uterus are not only exceedingly numerous, lax, and convoluted, but they are reflected upon themselves in such manner as to admit of the enlargement of that organ without any alteration in the structure of them: and the necessity of this mechanism is evident, from the functions which it is required to perform, and the alterations in its size, which are indispensable to it, considered as the organ which is to receive, cherish, and conveniently lodge the embryo, till the allotted term shall have expired which nature has fixed for the perfection of fœtal existence. Without a mechanism of this kind, it appears impossible that the uterus should increase to the enormous size which we see it occasionally attain, without a total disruption of the vessels distributed throughout its parietes; and that this is reason enough for the arrangement which we see, if not the only one necessary to account for it, derives confirmation from the fact, that the nerves observe the same order in their distribution. It is more than doubtful whether the blood-vessels of the uterus receive or carry, under ordinary circumstances, more blood than is sufficient to keep them permeable; for if it were otherwise, that organ, more than any other, would be liable to inflammation, which we know is not the fact.

Of the argument drawn from the consideration, that in common with other secretions, menstruation is often at first very imperfectly performed, the advocates of the doctrine are at liberty to make what use they please. For ourselves, we confess that we are acquainted with no secreted fluid in the healthy condition of the secreting organ, which is not as perfect in its kind at the first as at any after period. The bile,

pancreatic juice, tears, urine, and saliva, for all we know, or can know to the contrary, are as completely elaborated at their first appearance as at any other time of life; and if, as stated, the menstrual discharge was proved to be thin, colourless, and deficient, these facts could have no assignable weight in the argument, unless it could be shown that this deficiency in colour, consistence, and amount, were irreconcilable with the fact that the ordinary material evacuated was blood, and inexplicable, unless through the agency of some secretory process.

That the females of many of the inferior animals, during their season of incalescence, have a discharge from the external organs of generation, is certainly true; and perhaps it is allowable to call it a secretion, though it must be granted on all hands, that such discharge may occur without the intervention of glandular structure, merely from the extraordinary excitement occasioned by the afflux of blood to the parts. But the feebleness of this analogy cannot but be obvious at a single glance. The one arises from a momentary stimulus, which only under special circumstances is equal to the production of this effect; the other is regularly periodical, depending upon causes which elude our utmost scrutiny, and controlled by no circumstances which will not, at the same time, impair the health of the individual, absolutely resolving itself into a law of her being.

The arguments drawn from the qualities of the material of menstruation, as they appear to be specious, and have been most insisted on, we will examine somewhat in detail; though we would have it distinctly understood, that whether successfully answered or not, they can have but little influence on the main question, as we are fully prepared to deny the leading position which they embrace, to wit, that menstrual blood does not coagulate. And were it not that we are interested to show that the doctrine of menstrual secretion is not only not true, but that it is insufficient to explain the phenomena occasionally attending the process, however ingeniously it may be urged, we should not enter seriously upon its refuta-

tion. We believe that menstrual blood does coagulate, and that when it does not, the fact is explained with facility, without resorting to the aid of secretion. But as it frequently happens that it continues fluid, in consequence of an over-excited condition of the vessels which furnish the discharge; and as the frequency of this occurrence may have induced the advocates of the modern doctrines to quote the exceptions to the fact, instead of the facts themselves, we feel it to be our duty to attempt the explanation. The opinions against which we are contending, appear to have their origin in the observation of a fact, which, though it had occurred a thousand times before, never arrested any special attention till the time of Mr. Hunter; viz. that in cases of imperforated hymen, the material collected, though it may have been accumulating for months, nay, even years, did not separate into the same parts that blood does when drawn from the arm, or left at rest extravasated; and he thence inferred, that if it was blood, it was essentially different from the circulating mass. In his work on the blood, he says, that "in healthy menstruation it does not coagulate, but in the irregular or unhealthy it does." We will for the present suppose this to be true, or at least waive the objections to which it is liable, till we have disposed of some minor points much more probable, in order to see whether they are not perfectly reconcileable with the fact that this discharge is blood, though they are offered as arguments for the opposite doctrine.

That menstrual blood does occasionally differ from ordinary blood in colour and consistence, may be true, though we think it would be difficult to show that these differences constitute it an entirely different material, unless it could be proved that the changes were necessary and not accidental. Blood drawn from the arm differs frequently, in both these respects, in different persons, and at different times in the same person. The first part drawn, almost invariably has a deeper tint than that received into the cup immediately before finishing the operation. The blood of pregnant females is more thin and florid, all other circumstances being equal, than

it is in any other case. The quantity drawn, the time occupied in drawing it, and the manner in which it is done, whether from a large or small orifice, all influence the appearance of it; and it is reasonable to suppose, that as the blood in ordinary cases takes on this varied character, that that evacuated from the uterus, supposing it to be blood at all, would not essentially differ; and this we apprehend would be found to be the fact, were it not that it is subjected to changes in its passage through the uterus and vagina. The alteration of colour is easily accounted for by its congestion and detention in the tortuous vessels of the uterus, which gives it the character of venous blood, and by the absorption of its more fluid parts by the surfaces over which it has to pass; which leaves a larger proportion of the colouring material in that which is evacuated than blood would naturally possess; and when we add to this the loss of its fibrine, of which it is deprived when it is destitute of the power of coagulation, which by the way is always the case when it has the dark colour, every difficulty in the explanation is removed. The odour of the discharge, which among other things has been adduced in proof that it is a secretion, it is presumed would never singly have been offered, inasmuch as this quality cannot be proved to be inherent to the discharge itself, and may be satisfactorily settled by a knowledge of the fact, that it partakes of the nature of the ordinary secretions of the organs of generation, which derive their smell from the numerous odoriferous glands distributed about the external parts. It is said also to be by no means so liable to become putrid as ordinary blood; this may or may not be, for we have had no means of judging; and if it is so, it must be confessed that it is difficult of explanation. We regret that we have not been able to submit the question to the test of experiment; we know from actual observation that it is not true when the discharge coagulates; and when it does not, it is extremely difficult to procure a sufficiency of the material for the purposes of experiment; we shall therefore consider this point as still sub judice. The next point to be considered is, that upon analysis it does not afford the same

results as ordinary blood. This is true in so far as it is deprived of the power of coagulation; and if our view of the subject is correct, it would be marvellously strange if it were otherwise in any case where the material remains fluid, for by parting with its fibrine, it loses all that part of it which may be supposed to have the greatest affinity to the simple animal solid; and it could no more be expected that it should yield the same results, than that blood drawn from the arm, and deprived of its coagulating lymph by mechanical means, should offer an analysis similar to that blood which had not been subjected to the same experiment.

We come now to that which has been presumed the distinctive character of the menstrual flux, viz. its want of coagulability. On this point, as we have before remarked, we are completely at issue with those who hold the doctrine of menstrual secretion, who, it will be recollected, also deny the character of menstruation to the discharge whenever it does not coagulate; and perhaps, in order to be consistent with themselves, it is necessary that they should. We have seen how far the arguments urged in favour of secretion, so far as they are founded in fact, may, when properly understood, be made to consist with and support the opposite opinion. We will now attempt to show how insufficient the doctrine is to explain some of the phenomena occasionally attending menstruation; and when we have done this, which we shall do in a word, we shall have answered, incidentally, this last argument.

We believe that the position has been assumed without warrant, as it is directly opposed to our own experience, and at variance with that of all other practitioners whom we have consulted on the subject, and when we add to this the unqualified testimony of patients, nurses, and attendants, all to the same effect, we are constrained to conclude, that the exceptions have been made the data on which the opinion has been founded, and not the rule itself. It would be worse than useless to spend time in proving this, inasmuch as the advocates of the doctrine of secretion deny the application of the term

unless the material does coagulate: we will therefore show that the doctrine, if true, is defective, and no ingenuity can supply the deficiency. The fact is at hand to offer in proof, and the reasoning is as short as it is conclusive. In dysmenorrhœa there is occasionally formed a membranous substance very similar to, if not precisely the material which in pregnant females is called *decidua*. Whence is it? Is it the product of secretion, or the coagulating lymph of the blood spontaneously separated from it after it has escaped from the uterine arteries? It is certainly the one or the other; if it be the latter, the mode of its formation fully accounts for the fluid appearance of the discharge, although it is allowed by the advocates for the doctrine themselves, that it is evidence of menstruation deranged or depraved: if the former, it presents the singular anomaly of *two secretions essentially different in all respects going on in the same organ at the same time:* for whenever this membranous or pulpy substance is evacuated, it is accompanied by a fluid resembling blood, which will not coagulate, or in other words, with the material of true menstruation themselves being judges. If it be not the true material of menstruation according to their view of the subject, we have a right to know wherein it differs, as in all its sensible qualities it is known to correspond: and if it is, the evidence is complete, according to their own showing, that this uncoagulating discharge, instead of being a healthy, natural evacuation, is the result of a diseased action of the uterine apparatus, whether glandular or not, as we have shown that it cannot be a secretion.

Our own opinion is, that natural menstruation is an active hemorrhage; that the discharge is blood, and of course that, like all other blood, it will coagulate; and that, when it does not, the process of menstruation is deranged or depraved, and is to be attributed to a paucity of the discharge, or to such a diseased condition of the uterine vessels which afford it, as to allow a rapid separation of the blood into its constituent parts; in which case the coagulating lymph is deposited on the interior surface of the uterus, from which it is occasionally

evacuated by the agency of the irritation which itself creates. It is no objection to this opinion, that the menstrual discharge when fluid does not always offer evidence of the presence of this fibrous or pulpy material; as, if it does not exceed in amount the quantity of coagulating lymph which would be separated in one, two, or even three terms, it may reasonably be presumed, to use a phrase of the late Dr. Hunter, that it would occasionally be melted down and pass off with the ordinary discharges unobserved. That this is frequently the case in dysmenorrhœa is beyond a doubt, and practical authors on the diseases of females direct that this fact should be particularly inquired into, in order to the adoption of a proper plan of treatment.*

It was our intention to have examined in this place the opinion of the late Dr. William Hunter respecting the *decidua*, in order to show that its formation is totally inexplicable upon any other view of the material of menstruation than that here offered; and to present the various analogies derived from the known phenomena of hemorrhage which may be brought in aid of the doctrine, in order that the whole might form a basis upon which to found some new views of the subjects of dysmenorrhœa and sterility, in order to the improvement of the treatment of the one and the total removal of the other: but as this paper is already sufficiently extended, we shall reserve them for a future occasion.

ART. IV. *An Account of the* TOPOGRAPHY, WEATHER, *and* DISEASES *of* NASSAU, *Island of New-Providence, Capital of the Bahamas, West Indies.* By P. S. TOWNSEND, M. D. of New-York.

NASSAU is in latitude 25° 25′ north, and situated upon the north side of an island called New-Providence, one of the group of the Bahamas. The town and island contain about

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* Vide Burns's Midwifery, Article *Dysmenorrhœa.*

five thousand inhabitants, one-third of which are coloured people, and one-sixth of the coloured people, mulattoes. The island like the rest of the Bahamas, consists exclusively of coral rock, black, ragged, and apparently worm-eaten, and water-worn like amygdaloid externally,* and either of pale ash, or whitish yellow colour within, and of so soft a texture as to be easily wrought into blocks for building, and into drip-stones, troughs, and other domestic utensils. This rock, which is the only mineral substance found in this or any other of these islands, and which when growing on the bottom of the sea, spreads out into those arborescent expansions, which formed originally the tenements of generations, of animals that are now extinct, has been by time consolidated into a homogeneous substance, the structure of which is obviously laminated, as may be seen on different parts of the shore. The island being of such small dimensions, there are no rivers, and only here and there a small run, which scarcely deserves the name of creek, some of which serve as outlets to the stagnant swamps, and decomposed vegetable matter from bushes, weeds, and other plants at their source. Besides these there are several healthy ponds of brackish transparent water, of which one or two are some miles in extent, with hard rocky bottoms, covered with sand and shells, and with subterraneous communications to the sea, the tide ebbing and flowing about six inches. In the crevices between the rocks, and in small patches on their surface, there is a thin dry reddish loam, which scanty as it is in quantity, gives sustenance and support to a luxuriant crop of bushes, such as the bay cedar, prickly pear, cocoa plumb, samphire, cock spur, bay lavendar, &c. which grow chiefly near the sea, and the alder, the hercules club, wild thyme which grow in the interior; and to the roots of numerous lofty fruit and orna-

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* From its rough surface, it is called honey-comb rock, but it has much more the appearance of amygdaloid, though not worn like that into cells. It may perhaps be said to resemble fret-work in sculpture more than any other thing.

mental trees, which to judge by their dimensions and abundant and ample foliage, must have obtained their nourishment from the warm and sunny atmosphere in which they breathe, rather than from the foundation upon which they stand. Such are the cocoa-nut tree, the zapodilla, cotton tree, pride of India, avocado pear or vegetable marrow, the mango, sugar apple, star apple, custard apple, orange, lemon, lime, the shadduck, grape fruit, and forbidden fruit, guava, tamarind, bread fruit, sour sop, mammie, and papau, plumb, sand-box, coffee, palmetto, pine, sea grape, Jamaica apple, mastic, pigeon plumb, fig, and wild fig, poison wood, lignumvitæ, brazelletto, satin wood, yellow wood, cedar, horse-flesh and Madeira mahogany trees, &c. &c.

The town is located on the shore of a narrow long bay, formed by a narrow rocky reef between it and the sea called Hog island, covered with bushes like the island of New-Providence, and running before and longitudinally with the main street of the town, east and west. About half a quarter of a mile in the rear of the town, the land rises abruptly to fifty or seventy feet elevation, on which is built the government or governor's house, the barracks, and the two forts, Charlotte on the west, and Fincastle on the east. In the rear of this hill the island forms a long shallow basin, covered by a dreary waste of bushes, which grow to the height of from six to twenty feet in the crevices and hollows of the rock, with no object to diversify the scene, but the glistening surface of some solitary pond, or the tall tufted trunk of the majestic cocoa-nut, to denote the existence of small garden spots, which by dint of hard industry, have been reclaimed from the sterile rock. Beyond this again, and about two and a half miles from town, is a high ridge running easterly and westerly, and called the blue hills, of about the same, or perhaps somewhat greater altitude than the ridge first described. From these again the land, or rather rock, descends to the sea on the south side of the island, the general course of the island being east and west.

As there are no rivers, and therefore no alluvion, and as but very little of the debris of vegetation is washed into the sea, the shores are bathed in water so perfectly pure and transparent, that the bottom may be clearly seen at the depth of a *hundred feet.* This has a peculiarly beautiful appearance to one accustomed to the muddy water of alluvial countries; and becomes still more interesting when it is recollected, that without this providential circumstance, and the brilliant sky of the climate by night as well as by day, the navigation of these islands would be infinitely more dangerous and disastrous than it is at present.

There is nothing that can properly be called a marsh, but there are several swamps and wet places, especially around the margin of the ponds, and near the sea-shore, where the luxuriant crop of vegetation during spring and summer, and the decomposition which ensues in the autumnal months, produce as in all other countries, miasmatic fevers. On the north side of the island, and on many of the chain of reefs which run along easterly from New-Providence, I have observed the coral rock has a tendency to shelve over into the sea. The coast also on the north side of the Bahamas is remarkably bold and precipitous. Half a mile opposite the west end of the town you pass the western extremity of Hog island, upon which the light-house stands at the entrance of the harbour, and leaving the white bottom of the harbour, and as it is termed *white* or transparent water, find yourself in a few yards, out of soundings, and in the deep blue water of the sea, as unfathomable as in the middle of the ocean. The line which forms the brow of this stupendous submarine precipice, is distinctly visible by the colour which the water assumes when viewed from the town. In the bay it is of a beautiful pea green, here and there streaked with brown or yellow, but on reaching the declivity, it suddenly changes to a deep or dark blue, which, contrasted with the former, gives a most picturesque and singular appearance to the harbour of Nassau. In richness of tint, the green waters of the Bahamas far exceed in beauty those of the Mediterranean.

On the contrary, the south side of this groupe of islands slopes so gently, that you may almost wade into the sea for miles, and no vessel except the smallest kind of craft can come within a long distance of the shore. In short, the Bahama Islands may be considered one immense formation of coral rock of several hundred miles in extent and breadth, running generally in a north-easterly and south-westerly course, by far the greater part of which is sunk several fathoms below the surface of the sea, and known under the denomination of the Great Bahama Bank, &c. ; while part has emerged from the water to the altitude of from fifty to one hundred feet, and is composed of long barren ridges on reefs of rocks covered with bushes, with here and there a cocoa-nut tree, which is the general aspect of the headland of this cluster, when seen at sea.* The process by which these and other similar islands are made, may be compared to what takes place in the vegetable world in the formation of bog, or marsh. Crops of coral and other sea plants follow each other in succession, and are in turn decomposed, or rather disintegrated, and consolidated into laminated rock, the bulk of which, aided by the remains of shells, ultimately increases to such dimensions, as to swell above the surface of the water. At Lyford's Key, upon the south-west point of the island, there was a channel, not sixty years ago, which would admit vessels drawing six feet water, but which is now a cornfield, with a house upon it. In the South Sea Islands, according to Capt. Flinders, the changes which, from the incessant activity of these animals, are wrought in the configuration of submarine masses of coral, render it necessary to have new charts every few years.

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* Sterile and rocky as these islands are, their growth of bushes make them appear a few miles at sea as if clothed with a rich verdure. On nearing the shore however, interstices and bare patches of rock begin to be discovered between the bushes, and on landing, one is astonished that as much vegetation as is actually found upon them can obtain sustenance from the few scattered handfuls of soil sprinkled in the crevices and indentations over the rough surface of the rock.

This coral substance is observed here in three different states:

1st, As it is found growing upon the banks under water inhabited by living animals.

2d, Where the habitation has been deserted by its tenant and is going to decay, retaining more or less of its original characters, though in an imperfect state, such as the colours, form, &c. In this condition I have seen the madreporites, brain stones, &c. &c.: also many species of shells (retaining their colours, though imbedded in the coral as petrifactions,) in great quantities in the stone fences on different parts of the island.

3d, The consolidated laminated coral rock of soft texture already described, and which is the oldest formation.

From all that has been said, it is obvious that there is nothing in the soil, or rather the basis which composes this cluster, that can be deleterious to health. The vegetation also being in the aggregate less abundant, and less luxuriant in proportion to this sterility, cannot operate so extensively in the production of diseases, as in those islands covered with a deep stratum of rich loam. The bibulous nature of the calcareous rock also, to which it clings, serves to absorb and to neutralize perhaps many of the noxious juices and exhalations which result from the decomposition of vegetable matters. The slime and mud however, which collect in these ponds in the rear of the hill back of the town, is said at certain seasons to impregnate the air with unwholesome miasms. It is even asserted that the south-easterly winds, which during summer and autumn are most prevalent, become saturated with these exhalations, and passing in their course over the western part of the town and the barracks, render those places unhealthy, while the central and eastern part of the town, being out of the range of these winds, remain comparatively exempt from sickness. I shall probably have an opportunity of testing the truth of this assertion in autumn. In the mean time I cannot help remarking, that the opinion appears to me quite improbable, with respect to the western

part of the town, for the range of hills there is as high and as much a shelter from the ponds in the interior of the island, as to any other part of the town.

2. *Weather.* The meteorological observations embraced in this table, comprise a space of six months, commencing with March 1824.

	March.	April.	May.	June.	July.	August.
Average highest elevation of the thermometer between meridian and 4 P.M.	78.29	80.43	83.22	85.20	89.00	88.06
The winds prevailed. E. as W.	23	7	2	2	10	12
N.		2	1	2	5	1
S.	2	2	6	7	1	7
N. E.	24	12	20	12	8	5
S. E.	31	24	24	16	34	35
N. W.	8	8	5	7	1	
S. W.	2	3	2	8		2
Days of rain	7	8	13	13	11	20
do. of thunder and lightning,		1	2	2	6	13

The range of the thermometer in any month scarcely ever exceeded from *five* to *eight* degrees during the twenty-four hours, the greatest depression being always between midnight and daybreak. A thunder-storm and heavy rain in the day or night, always cooled the air, and lowered the mercury from 2 to 10 degrees. On the 17th June, the thermometer for the first time this year reached as high as 90° at 2 P. M., but that was the only day the whole month it rose so high. On the 2d July, the mercury ascended to 91° at 2 P. M., to 90° on the 13th at 3 P. M., and to 91° on the 19th, 20th, and 21st, at 2 P. M.: there was not a day in July in which it did not go beyond 86°, the whole of this month being exceedingly hot and dry; hotter than had been known before in forty years, which caused many to apprehend the occurrence of a

hurricane. The quicksilver did not sink at any time of the night below 82°, which rendered that period of the twenty-four hours extremely oppressive, especially when it was calm, as often happened. I have often felt the heat in the day less oppressive at 90° if there was a breeze, than when the air was calm, and the temperature as low as 86° and 84°. The weather was as pleasant to the feelings as could be desired, until the beginning of June, when light dresses became absolutely requisite for comfort. What was unusual, the rays of the sun were seldom obscured during all July, and the thunder-showers, whose refreshing influence is eagerly sought for, and naturally expected in this month, scarcely exceeded in number those of June. August again assumed its wonted livery, and after the 4th of the month, a day rarely passed without the occurrence of thunder and lightning, and a heavy shower of rain in the afternoon, which kept the mercury almost constantly below 90°, and rendered the air infinitely more agreeable to my feelings, than the sultry weather which I had been accustomed to experience in New-York during this month.

Since my residence here, which is now nearly nine months, commencing with December 1823, I do not recollect a day, certainly not two days during winter, spring, and summer, on which the sun was constantly obscured, or the heavens entirely overcast. The climate of the Bahamas, like the limpid, colourless waters that bathe its shores, may with justice be denominated brilliant and transparent. Fogs and mists are utterly unknown, nor is the heat so violent or intolerable as those in the north are led to believe. During all the winter months, nothing could surpass the agreeable, uniform temperature of the air, which was constantly fanned and purified by gentle breezes from the north-west. A case of sickness in an island containing a population of 3000 souls, was at this period quite a rare occurrence.* The dews which

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* Certainly none that I heard of was attributed to atmospheric influence.

at times are heavy, and which may easily be avoided, are the only phenomena at this season which can be considered obnoxious to health. For consumptive patients, I should not hesitate to recommend a winter residence at Nassau, as incomparably preferable to the chilly atmosphere of Montpellier and Nice. The thermometer in winter seldom exceeded 85°, and was only on one day as low as 60°, when several of the natives complained of the intense cold; and what seemed ludicrous and unaccountable, suffered much from *chapped lips!*

From winter to the beginning of June, the mercury rises by regular and successive gradations, until it has reached its maximum range, and which may be said to be between 80 and 90° of Fahrenheit. Between these circumscribed limits, it fluctuates until autumn, when it begins to fall again till the commencement of winter.

The uniform law observed in the increments and decrements of heat, prepare and accommodate the system to the temperature of the different months and seasons, and render the changes which take place much more easy to be endured, than those irregular and extraordinary vicissitudes of heat and cold which characterize the climate of the United States.

It must be at the same time admitted, as has been remarked by Humboldt, that the high and steady range of the thermometer during most of the year, greatly augments the sensibility of the body, and in this way gives origin perhaps to that numerous and distressing class of diseases which are seated in the nervous tissue, and so prevalent in tropical countries.

The equableness of temperature in this climate may be judged of from the following Table.

VARIATION OF THE THERMOMETER,

In March,	at	9 A. M.	was from	65°	to 81°
April,	at	8 A. M.		70	to 79
May,	at	8 A. M.		75	to 81
May,	at	10 P. M.		73	to 82
June,	at	7 A. M.		74	to 82

June,	at 10 P. M.	74 to 85
July,	at 7 A. M.	81 to 84
July,	at 10 P. M.	81 to 86
August,	at 7 A. M.	79 to 83
August,	at 10 P. M.	79 to 84

The trade winds prevailed almost during the whole period of time to which these observations refer, as will be seen by the table of the weather; the winds from the E. N. E. and S. E. being as four to one in proportion to those from any other quarter of the compass. There being no elevated and extensive tracts of land in this part of the West Indies, to modify the direction of the winds, there are none that can be said to be peculiar or local to the Bahama Islands. They are the same as those that prevail at sea; and often, therefore, when they do change, change very suddenly from one point of the compass to another, making the whole circuit sometimes in a couple of hours; as for example, after continuing steadily for days and nights at S. E. the vane points in a moment to the S.; then in a few moments to the W.; then to the N. W. bringing up a thunder-shower, which, having gone over, the wind comes out at the N. and then gets round again to the point from whence it departed.

The S. E. wind, though so prevalent, is almost as much dreaded at Nassau, as the Maestral, or N. W. at Marseilles. It is thought very damp, oppressive, and unwholesome, especially in winter, when the warm vapours of the Carribean archipelago, with which it comes overcharged, are condensed into heavy dew. I have often, however, seen the sky as clear, and felt the air as pure, apparently, from the S. E., as from any other part of the compass, excepting the N. and N. W., which are cool, bracing breezes, coming with much more force than any of the other winds, and always hailed as a great treat and luxury, particularly in the warm weather.

The N. and N. W. are more prevalent in winter than in summer; but being obliged in their course from the American continent to pass over an extensive space of ocean before they reach these islands, are more often humid than the same

wind on the coast of the United States. Hence they are frequently the forerunners of showers and thunder-gusts.

I am informed by General Grant, who is Governor of these islands, and has been for many years residing in the West Indies, that the climate of the Bahamas is much more analogous to that of Bermuda, than to the great mass of islands, which, properly speaking, compose the West Indies.

The Bahamas being the first chain of islands south of the United States, feel more directly the influence of the winds coming from the American continent, than do any other of the West Indies. Hence the climate participates in some degree with that of North America; for the atmosphere during the autumnal and winter months, being so frequently purified and cooled by northerly winds from the continent, the aggregate amount of heat for the year is perhaps less than would be supposed from the parallels of latitude upon which they are situated. Yet Cuba, only two days sail from Nassau, and only one or two degrees more south, is, from its regular land and sea-breezes, which Nassau is not favoured with, said to be a much pleasanter summer residence than this island. I have one thing further to observe on the meteorology of the Bahamas, that the moonlight is remarkably brilliant, so much so, as often to be sufficiently clear to read by, though the inhabitants I find are under an impression that the moonlight of the north, on a cold frosty evening, is much brighter. The brilliancy of the moon here is perhaps owing to the same cause which makes the sun in the tropics hotter and brighter than further north, viz. the greater perpendicularity of its rays.

(To be continued.)

ART. V. REPORT *of* DISEASES *received in the New-York Hospital during the months of August, September, and October*, 1824. By SAMUEL W. MOORE, M. D. of New-York.

To the Editors of the New-York Medical and Physical Journal.

GENTLEMEN,

In compliance with your request to give you a report of the diseases which came under my treatment during my

late term of attendance at the New-York Hospital, I herewith send it, to which I have added some general observations. Should you think them worthy of a place in your Journal, they are at your service.

Yours respectfully,

SAMUEL W. MOORE.

48 Warren-street, Dec. 23, 1824.

Diseases.	Cured.	Relieved.	Died.	Remain.	Total.
Apoplexia	1		2		3
Asthenia	1	1	2		4
Asthma	1				1
Bronchitis Chronica	1			1	2
Cephalalgia	1			1	2
Constipatio	1				1
Delirium Tremens	2		2		4
Diarrhœa	5	1	1	2	9
Dysenteria	9			3	12
Dyspepsia	6				6
Enteritis			1		1
Febres	27		6	7	40
Febres Intermittentes	37			7	44
Gastritis			1		1
Hæmoptysis	1		2		3
Hæmaturia	1				1
Hepatitis	1			2	3
Hydrops	2		4	4	10
Icterus	1				1
Nephritis	1				1
Orchitis	1				1
Otitis				1	1
Paralysis	2	1	1	2	6
Phthisis		1	6	2	9
Pneumonia	6			6	12
Rheumatismus	20	5		15	40
Syphilis	9			8	17
Tonsilitis	1				1
Urethritis	3			2	5
Variola			1		1
	141	9	29	63	242

Apoplexy. Three cases of this disease occurred, in two of which it proved fatal. One of these took place in a man, who was brought to the hospital in a state of insensibility, from which he was not roused, and died the night after his admission.

The other fatal case occurred in the hospital, in a patient who had been admitted three days before with jaundice, attended with inflammatory symptoms, for the relief of which he was freely bled, and treated by other antiphlogistic remedies. The supervention of apoplexy in this case, I am disposed to attribute to that sympathy well known to exist between the brain and liver. Proofs of the existence of this sympathy are rendered familiar to us, from being met with almost daily. An able writer on this subject has observed, that "in all derangements of function or structure of the biliary organ, there is hardly a more constant symptom than head-ache, or vertigo, or disturbance of the mental functions."* A valuable paper on jaundice has been lately published by Dr. Marsh, the object of which he states, "is to bring forward instances in which icterus is connected; sometimes with deranged, and even fatal affections of the brain; sometimes with a diseased condition of the mucous membrane of the intestines."† Amongst the most important, and perhaps most frequently fatal effects of this sympathy, may be ranked hydrochephalus occurring in children, where it originates from a deranged condition of chylopoietic viscera; in which cases I believe it invariably happens that there is more or less disturbance in the functions of the liver.

The case of apoplexy which was treated successfully, was that of M'Canna, a strong muscular man, under forty years of age. He was brought to the hospital in a state of complete insensibility, with stertorous breathing, suffused face, dilated pupils, full and slow pulse: a vein was opened, and blood suffered to flow in a full stream, until more than forty

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* Johnson on Derangements of the Liver and internal organs.

† Dublin Hospital Reports, Vol. III.

ounces had been taken: his breast and abdomen were rubbed with aq. ammoniæ, and an aloetic injection was thrown into the rectum. These means had no effect in rousing him in the smallest degree. His extremities were now becoming cold, and his state appearing very desperate, I determined to try the effect of quickly blistering his legs by means of hot water, and accordingly ordered a bucket of boiling water to be brought immediately: into this pieces of blanket were dipped, and his legs, from the knees to the feet, were wrapped up in them. He showed no evidence of sensibility even to this application, which was several times renewed fresh from the boiling water, until his legs became red and inflamed. After a few hours I visited him again, and found him sweating profusely, rolling his head on the pillow, and making an ineffectual effort to speak: both legs were severely blistered; the injection had operated; his countenance, pulse, and breathing had much improved, and his pupils were less dilated. On the following morning I found him sitting on the side of the bed, appearing quite well, and complaining of nothing but his legs, which were extremely sore. They were dressed with turpentine liniment; some febrile excitement appeared, which was subdued by cathartics and antimonial solution. A few days after this he was removed to a surgical ward, where he slowly recovered from his sore legs.

Chronic bronchitis. Two cases of this disease were admitted, neither of which appeared to require bleeding. One of them proved very obstinate, under a variety of treatment: the other yielded to moderate evacuations from the bowels; a blister to the breast, with a mixture of copaiva and mucilage, taken three or four times a day, which operated moderately on the bowels, and occasionally vomited.

Cephalalgia. A pretty severe case of this disease, apparently dependent on intestinal irritation, was treated by free purging; giving at night ten grains of calomel, and in the morning an infusion of senna with Epsom salts, and half a drachm of jalap, which was repeated once every two hours,

until it produced full effect: by these means he was soon relieved.

The cases of dysentery were not very severe, and were not attended by high excitement: some of them were soon relieved by giving a purgative in the morning, and a dose of Dover's powder at night. In other cases, moderate doses of calomel and Dover's powder were given three or four times a day, and at night a sufficient dose of Dover's powder, to enable them to rest; for which purpose twelve or fifteen grains were generally given. This treatment was found very useful; the gums were generally slightly affected before the cure was completed. In one case, the patient was freely salivated, and his mouth very sore; for which he was directed to use the wash recommended by Mr. Sommé of Antwerp, composed of an ounce of the solution of sub-acetate of lead to one pint of water: this he did with advantage. I observed from it the effect, noticed by others, that of blackening the teeth; but it was not of long continuance. In one case, after the other symptoms had disappeared, free discharges of blood from the bowels continued, unattended by pain. This I endeavoured to restrain, by giving super-acetate of lead in the form of pills, beginning with one grain three times a day, and increasing it to five grains. I was disappointed in the benefit I expected from this treatment, but it was not productive of any unpleasant effect. As a purgative in dysentery, castor-oil and tincture of rhubarb, as recommended by Dr. O'Brien, was much employed.

The cases of fever, which occurred were not generally of a very serious nature: appearing in most instances to be connected with abdominal derangement, they generally yielded to evacuations. In a few cases moderate bleeding was necessary, which was followed by cathartics of calomel and tart. antim., and occasionally senna with salts. Some cases which did not yield to this treatment, or which were admitted at an advanced stage of the disease, and not in a state to allow much depletion, were treated by small doses of calomel and

opium with great advantage, at the same time evacuating the bowels moderately by rhubarb and magnesia.

Intermittents were also common: some patients who were received soon after their attack, required nothing more than freely evacuating the stomach and bowels; others, who were not relieved by this treatment, continued until the tongue became clean, took sulphate of quinine, or extract of bark, for a few days, which generally completed the cure.

A case of hæmatemesis with hæmaturia was admitted. As there was at the time considerable excitement, he was immediately bled and purged freely; after which the vomiting of blood ceased, but the discharge of blood from the bladder continued, as he stated, to the amount of a pint daily. After all remaining excitement had been reduced by the use of purgatives, the discharge of blood still continuing, he was directed to take pills, containing super-acetate of lead, three times a day, beginning with one grain, and increasing it to two; which was continued for a few days, during which time the blood discharged was very much diminished, and in a few days ceased altogether.

Several cases of general dropsy occurred, four of which proved fatal. One of these cases, John Miller, was admitted on the 7th of September, with hydro-thorax, ascites, and anasarca. He was unable to lie down without fear of suffocating, and breathed with great difficulty in any posture. He attributed his disease to exposure to rain, while in a state of intoxication, having been previously warm with exercise, and sleeping afterwards in his wet clothes. The exhausted state in which he was brought in, led me to believe he could not survive twenty-four hours. He revived, however, from this state, after taking a little wine and arrow-root. He took, for a few days, a pill night and morning, containing three grains of squill with two of digitalis. During this time his urine, which had been passed very sparingly, was increased in quantity: he also took a solution of cream of tartar, as a common drink. At this time some febrile excitement appearing, he was directed to take, three or four times a day, a pill

composed of calomel, aloes, squill, and tartar emetic. These produced free evacuations from the bowels, and increased the flow of urine; they were continued until the 20th, when his mouth becoming sore, they were stopped; he continued the cream of tartar drink. In the meantime his legs, which were much swollen, had been punctured, and discharged freely. From the time he omitted the pills, he took daily a cathartic of comp. powder of jalap, until the 30th, when he recommenced the use of the pills of calomel and aloes, which were again laid aside after a few days, on account of the soreness of his mouth. His legs were punctured on the 3d and 6th of October. He took occasionally a cathartic of rhubarb and super sulphate of potash; and to relieve a troublesome cough, a mixture of oxymel of squill, spirit of nitric æther and paregoric, and a diuretic decoction of senega and squill. Under this treatment he improved daily, his swellings subsided, he was able to sleep in any posture. By the 11th, the swelling of his abdomen and extremities had entirely disappeared; he complained of nothing but a cough—continued to walk about the ward until half-past eight in the evening—and at nine o'clock, one of the patients on going to his bed-side, found him dead. I regretted not having it in my power to examine the body, as the cause of death was not apparent.

Michael Horn, admitted on the 2d of October. This was another fatal case of dropsy. He was a strong, athletic man, about thirty-six years of age. His abdomen was full and tense—lower extremities much swollen—breathing difficult, from distension of his abdomen—pulse full and strong—he did not pass more than half a pint of urine in the twenty-four hours—his bowels very torpid—his eyes and complexion indicated a deranged state of the liver. He was directed to lose blood until it produced a decided effect on his pulse; he was also ordered pills of calomel, aloes, and squill, like those given to Miller. He became faint after sixteen ounces of blood had been taken; his breathing was relieved by the bleeding: his skin became relaxed, and his urine was increased to a pint in twenty-four hours. As he had taken mercury

before his admission to the hospital, he was unable to continue the pills more than a day or two on account of the soreness of his mouth. His pulse appearing to require it, and his breathing being oppressed, he was bled on the 3d, and again on the 5th day after his admission, and each time it appeared to afford him temporary relief. He took cream of tartar freely, as a drink, and occasionally a little sulphate of soda was added to his super-tartrate of potash; he also took a decoction of squill and senega. Under this treatment he appeared to improve for some days. On the 9th, his breathing became again difficult, and his abdomen much distended; to relieve which he was tapped, and nearly two gallons of water were drawn off, this afforded him great relief in breathing, and enabled him to pass a comfortable night.—10th. Complained of soreness in the part punctured, from which the water still flowed—continued his diuretic drinks.—12th. Complained of pain in the bowels—had a blister applied to the abdomen—pulse soft and slow—urine increased in quantity. 13th. Better in every respect; abdomen becoming softer—legs less swelled—thinks he passes at least half a gallon of urine a day.—14th. Complains of head-ache, with sickness and inclination to vomit—took a few grains of ipecacuanha. 15th. Head-ache relieved—still complains of sickness—pulse feeble—directed him to take arrowroot and wine, or any thing else his stomach craved.—16th. Stomach rejects whatever is taken—pulse very feeble—ordered warm gin and water, with spice, which he thought he could relish. The irritable state of his stomach continued until he died, which happened within a few hours after my visit.

Jaundice. One case of this disease was admitted in addition to that which terminated in apoplexy. This man was received October the 9th, with symptoms highly inflammatory, skin and adnata more deeply tinged than I ever remember to have seen before. He was immediately bled twenty ounces, and ordered a scruple of calomel; on the following morning, infusion of senna with sulphate of magnesia; and at night, ten grains of calomel, followed again by salts and senna the

next morning. This plan was continued a few days longer, and on the 16th he was discharged, cured.

Pneumonia. In this disease, on account of the importance of the organ affected, no time should be lost in subduing inflammation; this we can in no way so well effect after copious bleeding, as by the free use of purgative and nauseating remedies. Shortly after bleeding, from ten to twenty grains of calomel with one or two of tartar emetic should be given, which is to be followed in a few hours by infusion of senna with salts; this to be repeated if necessary at short intervals, until it has produced its full effect. If at the end of a few hours the pain and difficulty of breathing continue, and the state of the pulse demands it, the bleeding should be repeated. In severe attacks of this disease, the bleeding should be carried to the extent of producing faintness or nausea, for when stopped short of this, the operation is almost useless; after this, excitement may generally be kept under by purgatives and antimonial solution of such a degree of strength as the patient can bear. I have sometimes found them able to take twelve or fifteen grains during the day, without vomiting, but I have never given more than that quantity, and seldom as much.

If the pain is not relieved by these means, a blister should be applied; but common as this remedy is, and useful as it very often is, I think it far less important than the other means I have mentioned, and in no severe case should it be considered a substitute for any of them. I have seen many cases which commenced with great severity, speedily subdued by this treatment; on some occasions, expectoration has by these means, been altogehter prevented from taking place; and almost invariably rendered much less troublesome than where a less active treatment has been pursued at the commencement of the attack. In some protracted cases, which have been either altogether neglected, or an inefficient practice employed at the onset, where the disease has appeared to be hastening to a fatal termination, calomel and compound powder of ipecacuanha in the proportion of two grains of the former with

three or four of the latter, given every two or three hours, has produced the happiest effects, which became manifest as soon as the gums were moderately affected.

Rheumatism. This is one of the most frequent, and often obstinate diseases, with which a physician in our climate has to contend. In the acute forms of this disease, when it attacks persons of a sanguineous temperament and plethoric habit, bleeding at the commencement of the attack, appears almost indispensable. But I am not generally disposed to think it should be in this, as in some other inflammatory affections, ranked first in importance. Even in the most acute forms of this disease, a treatment by other active means of depletion, to the total exclusion of bleeding, I think more efficacious, than one in which bleeding is relied on as the principal remedy aided by only moderate evacuations from the bowels. Sudorifics, when depended on as the chief agents in the cure, though highly esteemed by some, are in many cases worse than useless: we often see patients bathed in sweat, whose sufferings appear to be rather increased than diminished by it. In short, no evacuations can be substituted for free purgation, which may often supply the place of all others. Purgatives have the power of diminishing the mass of circulating fluids, and promoting absorption where requisite, as certainly, if not as speedily, as it can be effected by bleeding. But what other class of remedies can perform the important offices which belong almost exclusively to them; that of removing accumulations from the bowels, stimulating not only those large glands whose excretory ducts open into the intestines, to disgorge themselves by these channels, but, often affecting the mesenteric glands also, through the stimulus applied to the mouths of the lacteals, and when these organs have been deranged, restoring them to a state in which they can again perform their functions?

Experience in my own person, as well as in others, has convinced me that rheumatism is often essentially connected with a disordered state of the abdominal viscera, and particularly I am inclined to think, with derangement of the liver,

at least the frequency with which they are seen occurring together, leads me to believe that it is not to be attributed to mere coincidence. In some cases, the obstinacy of the disease has induced me to suspect such a connexion, even where it was not very apparent, and keeping this in view, in the selection of remedies, experience has proved, that although the pathology may have been wrong, the practice founded on it was right.

With regard to bleeding in this disease, although when carried to a great extent, it is sometimes thought to endanger life by occasioning metastasis to some vital organ, yet at other times, it has appeared to enable the constitution to bear the loss of a great quantity of blood with impunity. I remember to have seen a case of rheumatism some years since, in which the cure was attempted, almost solely by bleeding; on several occasions blood to the amount of forty ounces was drawn, without producing any disposition to faint, and scarcely any effect on the pulse; and subsequently, with the view of effecting this object, fifty-six ounces were taken at one bleeding with as little apparent effect. This patient lost altogether, within a short period, nearly three hundred ounces of blood, and although he did not appear to have sustained any injury from this treatment, he evidently had not at the time I saw him, derived from it the slightest benefit, as his pains continued unabated.

In the commencement of severe attacks of acute rheumatism, where the habit is full, and the constitution vigorous, if the inflammatory symptoms are high, I generally begin the treatment by one pretty free bleeding. Although I am far from thinking it in all cases as essential in this, as in most other phlegmasial diseases, I still believe however, that it often has an important influence in moderating the severity, and shortening the duration of the attack: but I must confess I have, on many occasions, even in the most acute forms of this disease, trusted to other means to the total exclusion of bleeding. These were chiefly active mercurial and saline cathartics, and nauseating remedies, and from the moderate duration, and

favourable result, I have no reason to believe that any other mode of treatment could have been more successful, though it might perhaps have been more agreeable to the feelings of the patient. After a single bleeding, I place my chief reliance on the other means above-mentioned, giving from ten to fifteen grains of calomel, occasionally combining with it from one to three grains of tartar emetic, and following it within a few hours by two or three ounces of infusion of senna with Epsom salts, to which is sometimes added from a scruple to half a drachm of powdered jalap. For recommending the addition of jalap, which renders this a much more active purging draught, I am indebted to Doctor Pring. This medicine should be repeated every two or three hours, until it produces full effect. If the excitement is not sufficiently reduced by these means, recourse is generally had to antimonials, given in full or nauseating doses. During the early stage of the disease, the bowels are kept freely purged by giving each night, eight or ten grains of calomel, and on the following morning senna with salts. In some cases, tincture of colchicum has been found useful in producing this effect, given in the dose of one tea-spoonful three or four times a day; and this not only operated freely on the bowels, but often vomited also. By pursuing this plan of treatment, all urgent symptoms will sometimes be removed in a few days, requiring only that a free state of the bowels be maintained for some time longer; this may be affected by giving each night at bed-time, five grains of calomel or blue pill, with an equal quantity of aloes, and giving occasionally in the morning a more active purgative of senna and salts. When the disease is not soon subdued by these means, I have recourse to calomel and opium, giving from two to four grains of calomel, with from a quarter to half a grain of opium four or five times a day, to which is sometimes added, from an eighth to a quarter of a grain of tartar emetic; this is continued until the gums become slightly affected, and relief is generally afforded, and shortly after, if not before this effect is produced. Purga-

tives are then again employed, and continued some time longer.

During the acute stage of the disease, the diet of the patient should consist of little more than barley water, thin gruel, toast, or apple water, and lemonade. At this time little advantage is to be gained from the use of external applications; if they succeed in removing the pain from one part, it will generally attack another; but after active inflammation is subdued, when pain, swelling, and stiffness remain, these means may be employed with great benefit. Among the most useful perhaps, may be reckoned blisters, antimonial ointment, and on some occasions the plaster of ammoniacum. In one case after the subsidence of a general rheumatic affection, all pain having ceased, the power of exerting the muscles, particularly of the limbs, was in a great degree lost; this patient appeared to derive benefit from the use of comp: soap liniment, with tincture of cantharides, taking at the same time subcarbonate of ammonia, which Dr. Paris thinks peculiarly useful in such cases, and in this instance, I think it proved so. In the more chronic forms of this disease, warm and vapour baths, where they can be used without subsequent exposure to cold, are often highly useful. The vapour of vinegar and water I have sometimes found more useful than that of water alone. In my own person, I have several times found this to be the case. Where pain has been confined to one spot, which was unattended by symptoms of active inflammation, I have several times tried the effect of acupuncturation, particularly in cases of rheumatism in the loins. On each occasion, I have introduced the needle to the depth from an inch to an inch and a half—sometimes without producing any effect, but often with at least temporary benefit; one patient declared himself relieved from all severe pain, and complained only of some remaining stiffness. At the time Mr. Churchill's publication on this subject first appeared, as I was suffering from rheumatism, I was induced to try the effect on myself, which I repeated many times, and generally with partial relief. I frequently introduced the

needle an inch and a half into the mass of lumbar muscles. I am induced to mention this circumstance merely for the sake of stating the fact, that this operation occasions nothing which deserves the name of pain.

The handle, into which the needle is fixed, should be held between the thumb and forefinger, and by giving it a rotatory motion, the needle is to be slowly introduced. A sensation somewhat resembling that which is caused by a very slight burn is perceived as the point is passing through the skin, after which its further advance is not perceptible.

Art. VI. A Case *of poisoning by* Laudanum, *successfully treated by means of Jukes's Syringe.* By Samuel W. Moore, M. D. of New-York.

In the month of October last, I was called on at an early hour one morning to visit Mrs. B——, about 22 years of age, who, on account of some domestic troubles, as I was informed, had an hour or two before taken laudanum, which, by her own confession, she had done with the intention of destroying herself. I found her strongly disposed to sleep, which her attendants were endeavouring to prevent, but she could not be sufficiently roused to make any exertion: and on making any attempt to do so, she begged earnestly that she might be permitted to sleep. As I was informed before leaving home of the circumstances of the case, I determined, before using any other means for her relief, on immediately trying the effect of throwing warm water into the stomach, and pumping it out by means of the syringe invented for that purpose. I accordingly ordered some warm water to be got ready without delay. As soon as this was done, the patient was raised up in bed, and her head was held back in a proper position to admit of the easy introduction of the œsophagus tube; her teeth were separated, and kept so by means of a wedge placed between them: when the gum-elastic tube, which had been previously well oiled, was passed into the

stomach without difficulty, and apparently with no more inconvenience to the patient than is occasioned by thrusting the finger into the throat, as is often done with the intention of exciting vomiting. I then threw into the stomach by means of the syringe a pint of tepid water, and had succeeded in drawing out again one half the quantity of fluid I had introduced, when the patient, whose struggles had made it necessary to hold her, threw her head back, and displaced the wedge from between her teeth. Fearing she might injure the tube, I directed an assistant to withdraw it. As she would not permit me to introduce it a second time, and I was unwilling to leave her without emptying her stomach more completely, I gave her several doses of sulphate of zinc, which vomited her. She was then suffered to sleep for some hours; and on awaking, took a dose of Epsom salts. On visiting her before night, I found her quite well.

The instrument which I employed on this occasion was that which is sold in London under the name of "Jukes's Syringe;" it has a stop-cock at the end, and another at the side, which, when used, must both be turned, in order to open one and shut the other each time it is required to throw the fluid out by a different pipe from that by which it has been admitted. This instrument certainly answers the purpose of its intention very well; but I gladly avail myself of this opportunity to notice an improvement which has been made on it by Messrs. Rose and Sellers, ingenious instrument makers of this city. Mr. Rose was present on the occasion just stated, when he had an opportunity for the first time of seeing this instrument.

Their improvement consists in substituting for the two stop-cocks used in Jukes's syringe one double stop-cock, with an end and lateral pipe; and so constructed, that each time the stop-cock is turned, the communication is necessarily closed with one pipe and opened with the other. The instrument is thus certainly rendered more simple and easy of application.

REVIEW.

ART. I. ELEMENTS *of the Etiology and Philosophy of* EPIDEMICS. In two parts. By JOSEPH MATHER SMITH, M. D. Fellow of the College of Physicians and Surgeons of the University of the State of New-York, &c. New-York. 8vo. pp. 223. 1824.

NEW-YORK has just reason to boast of the successful efforts made by her physicians to extend the knowledge of the causes and phenomena producing and accompanying epidemic diseases. With the exception of Rush, in fact, no writings have appeared on this interesting subject in this country which can even be said to compare with those of Bayley, Miller, Mitchill, and Pascalis. The indefatigable and successful ardour with which these able physicians devoted themselves to the investigation of this intricate and difficult subject, the flood of light which their observations poured on the long-disputed question of contagion, their lucid views of the origin of our pestilential fevers, and finally the diligence with which they collected facts, and the fidelity with which they detailed them, have secured them the most marked distinction both at home and abroad. To them more especially are we indebted for the clear and precise ideas which we at present entertain of the laws of contagion, and for the triumphant overthrow of the absurd belief which had long invested yellow fever with this terrific attribute, and rendered it an object of tenfold horror and dismay. So powerful and irresistible has been the influence of their arguments, and the force of the mass of tes-

timony by which they supported those arguments, that, with perhaps a few exceptions, there is scarcely a physician to be found in our extensive country, who does not consider the existence of contagion in fever as the phantom of a crazed or perverted mind, or as a mere bugbear which interested individuals have set up to catch at popular applause, and recommend themselves to popular support, by exciting the most unfounded alarm, and then offering a well-timed and artful sympathy. Such instances are happily rare; and the experience of every successive epidemic tends more fully to do away the hopeless attempt of reviving the obsolete doctrines of contagion and contagious importation. Among the latest and not the least successful opponents of these doctrines, we should not omit mentioning, and we do it with pride, the name of the learned and eloquent Dr. Coventry, the late President of our State Medical Society. In the several communications which this venerable physician has laid before the public, there have been displayed a vigour and originality of thought, which have extorted praise from almost every quarter, and reflected equal lustre on himself and on the Society which he so ably represented during two successive appointments.

Dr. Smith, with whose book we propose now to make our readers acquainted, has taken up the subject at the point where his predecessors may have been supposed to have left it, had they perfected the views which they conceived, or accomplished the task with which they set out: and had they indeed been able to perform this, the attempt of Dr. Smith would have been timeous, and attended with some prospect of success. Had the causes of epidemic fevers been thoroughly investigated, and their different natures and properties been fully understood, a philosophical arrangement of these causes would not only have been necessary and proper, but it would have been imperiously demanded. This happy period not having yet arrived, (for much as we claim for the writers with whose merited praise we commenced this article, we cannot assume that they even pretended to have brought

it about,) it becomes a serious question whether the attempt of Dr. Smith is not premature, and far from likely to produce any satisfactory result. Not only are the general laws governing epidemics not as yet well ascertained, but their origin, and the secret combinations which favour their development in one season and not in another, and likewise those which modify their peculiar character at different periods, are all hidden; nor are they probably within our reach. With what little hope of success, then, any project to arrange such undefined and inappreciable essences or beings in a philosophical or fixed order must be accompanied, is sufficiently evident. By urging this objection, we would not, however, be considered as detracting an iota from the merits of our author, who has displayed ingenuity and talent of no common order.

In the Introduction, Dr. Smith discusses several general points of great interest relating to the causes of epidemics. Contagion of course has a prominent place. Our author observes how truly singular it is, that for a thousand years the small-pox, measles, and scarlatina, committed their ravages without physicians having detected the contagious attribute undoubtedly belonging to them, while on fever they did not hesitate to bestow this doubtful property; and that the same inductive mode of reasoning which developed the true nature and communicability of the exanthematous fevers, led at first to doubts, and finally to a total denial of the contagiousness of fevers. This fact is no less curious, than it appears to us most singularly decisive of the merits of the dispute relating to contagion. We hear and see much of reference to the authority of the ancients; but assuredly they should be viewed with jealousy and suspicion, when their limited opportunities, compared with our own, and their defective and unphilosophical methods of arguing, are taken into consideration. After all, why shall we refer to any authorities excepting those of our own observation and experience, especially on a subject like this, in which the exercise of these is so absolutely necessary, if we would faithfully watch the various and

frequent modifications which the influences of time and localities produce in the aspect and history of disease?

In the course of these remarks arises the interesting query, whether bodies, labouring under pestilential disease, may always be approached with impunity? There can be no doubt in the mind of any one acquainted with the phenomena of epidemic diseases, that there is at times danger of contracting disease from the atmosphere surrounding sick bodies. On this admission the contagionists pride themselves not a little: and they insist, that if there is danger, from whatever source, in a room occupied by the sick, they have gained their point to all effectual intents and purposes. We would beg these disputants not to be so fast. From what does the danger arise? Is it from a peculiar secretion essential to the existence of the disease, and of consequence its invariable attendant? Dr. Adams has shown that the poison generated in these cases is not contagion, because it does not necessarily, (as has been with singular pertinacity and error maintained by some,) reproduce the same disease as that with which the sick are affected, which should be the case if that disease were contagious. The product is a typhous fever; it is only developed in places in which cleanliness and ventilation are totally neglected, and it may equally arise where the sick are confined with yellow, bilious, or any other fever, or in fact any other disease. A difficulty, however, would seem to attend cases in which the confined sick are themselves affected with typhus; in which instance the disease reproduced being the same as that prevailing among the sick, it may be cited as an indisputable evidence of contagion. On a little reflection, however, the difficulty vanishes. The disease reproduced is indeed the same, but it is not thus reproduced excepting under peculiar circumstances of filth, &c. which circumstances being removed, the reproduction of the disease ceases. Now, if this reproduction depended upon a contagious attribute in typhus, it should be, not an occasional occurrence only, but one under all circumstances in which bodies approached sufficiently near to be within contact of the poison.

It will be still objected, however, by the *moderate* contagionists, that these diseases are not contagious under *all* circumstances; that they only become so in a foul and vitiated atmosphere. This is, however, to admit that contagion is not an *essential* attribute of these fevers; and if this is given up, then it is really absurd to consider it such when there is superadded to its supposed influence the direct operation of causes which are shown to be sufficient of themselves to produce the effect, without the aid of the gratuitous combination. It has been still further urged as an objection to the view we have here taken, that it involves a neglect of those means of checking the prevalence of pestilential fevers which have been employed with so much success in Great Britain and elsewhere. It requires, however, but a slight insight into all the circumstances of the case, to convince every one, that the necessity and propriety of these measures are far more imperiously deducible from these views than from the childish, superstitious, and vague fears of contagion. In fact, we could never understand how their favourable operation can be satisfactorily explained by contagionists, excepting on the absurd postulatum that an essential attribute of a disease can be rendered inefficient: a position not less contrary to reason than to fact.

We now come to Dr. Smith's arrangement of the remote causes of epidemic diseases, and we shall follow it in regular order.

The first order is *contagion.* This is defined to be "a poison, generated by morbid animal secretion, possessing the power of inducing a like morbid action in healthy bodies, whereby it is reproduced, and indefinitely multiplied." We are truly surprised to find that our author, in a work professing to be philosophical, should have admitted so unphilosophical, loose, and indefensible a classification of contagious diseases as that proposed by Professor Hosack. Our objections to this arrangement have been already so fully stated, in our review of that gentleman's essays, that we deem it unnecessary to enter upon any repetition of them in this place. We have only to express our regret, that Dr. Smith, if he had

any permanent reputation in view for his book, should have assented to an arrangement so objectionable, and so little likely to stand the test of time.* It is but justice to Dr. Smith to state, that he has not adopted Dr. H.'s classification in toto. Influenza and cynanche maligna are deservedly erased from the contagious catalogue, where it is matter of serious astonishment that they should ever have been placed. The third class of Dr. H. including fevers mis-named contagious, is of course rejected altogether.

Order II. *Infection.* Dr. Smith defines it to be "a febrific agent produced by the decomposition of animal and vegetable substances." It exists in the state of a gas, or miasm, occurring in marshes and filthy houses, hospitals, jails, &c. &c. It has been severally known by the names of *marsh, or paludial miasmata, exhalations of the soil, vegeto-animal effluvium, malaria, human effluvia, febrile and putrid contagion*, &c. To some one of the genera included under this order, every fever of whatever description may be traced.

"Those who contend that contagion is the first essential of plague and yellow fever, argue, that if these diseases were produced by the exhalations from dead animal and vegetable matters, they would more frequently occur where there are offensive collections of putrefying substances. But this reasoning is by no means satisfactory. It should be recollected, that the qualities of the effluvia exhaled from putrescent substances may be diversified by a variety of circumstances; and particularly by the kind of materials undergoing corruption, their proportions, state of mixture, and degrees of temperature and moisture. The secret influences of the atmosphere, too, especially those which favour the prevalence of pestilential epidemics, may be supposed to have an agency in varying the properties of miasmata." pp. 43, 44.

Under the order Infection, Dr. Smith includes three genera: the two first of which are borrowed from Dr. Miller's

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* In the last number (V.) of the Westminster Review, for January 1825, p. 135, will be found an interesting article on Contagion and sanitary laws, in which objections to the principle of the arrangement we here oppose are enforced. We are happy to see that independent and able journal enlisted against contagion.

arrangement, and the third, which is original with our author, is a compound of the two former.

Genus I. *Koino Miasma.* This includes the effluvia arising from masses of public filth, and from marshes, &c. A high temperature, and a certain degree of moisture, are necessary to the development of this miasm. In this genus are arranged the miasms which produce plague, yellow fever, remittent and intermittent fevers.

Genus II. *Idio Miasma.* It is produced by animal excretions, accumulated in small and unventilated places, acted upon by heat. Accordingly, it occurs generally in the houses of the poor. It is the source of typhus fever, also known under the name of hospital, or jail fever. Dr. Smith thinks that this form of disease cannot be said to occur epidemically, because the miasm becomes innoxious when diffused in the atmosphere a few feet beyond the apartments in which it is engendered. We cannot altogether subscribe to this opinion. Typhus has prevailed in England too extensively not to be entitled to the name it has there received by way of distinction of epidemic fever. Nor has it been confined there in its ravages to the poor. The rich suffered equally from the disease, and in many places it proved even most fatal among this class.* We admit, however, that it is rare; in this country we believe there is scarcely an example on record, in which the general atmosphere of a city became pestiferous from this cause.

Genus III. *Idio Koino Miasma;* or a combination of the two former genera, producing compound fevers. We have some doubts as to the propriety of constituting the union of the two miasms already described, a separate genus; in other words, of forming a tertium quid. It is surely very possible that both these may be entirely distinct in their sources, and yet these sources be so near each other as to produce a simultaneous operation, or one nearly so, upon the same individual. This would indeed induce a mixed effect; but it does

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* See Edinburgh Review for March, 1819. No. LXII. p. 418.

not necessarily imply that the causes are themselves essentially mixed. Our author himself admits that it is impossible to decide whether the different miasms in this combination are merely in a state of mixture, or chemically united. We would add, that it is equally impossible to decide whether the causes, as such, are mixed at all. We hope, that in offering this objection to our author, we shall not be deemed hypercritical. His arrangement purposes to be a philosophical one, and founded upon strictly inductive principles. Too much jealousy and caution cannot therefore be exercised before we admit any principle, or establish any distinction that is not founded upon the most rigid exactness.

That the effects of the two causes are occasionally combined, there cannot be a doubt. The following is our author's view of it.

"Let us suppose the circumstances in which typhus originates to occur in summer, such as the crowding of individuals into small apartments, badly ventilated, and rendered offensive by personal and domestic filth. These causes would obviously produce typhus in its ordinary form. But suppose there exist at the same time those exhalations which occasion plague and yellow fever, or intermittent and remittent fevers. Under such circumstances, we should not expect to see any one of those diseases fully and distinctly formed, but a disease of a novel or modified character.

"In this country, several memorable instances have occurred within a few years, which will enable us to exemplify the peculiar agency of *idiokoino miasma*." p. 54.

The first instance adduced is that of the Bancker-street fever of 1820, about which so much difference of opinion and acrimony of feeling prevailed. We agree with Dr. Smith that, upon a careful review of all the facts connected with the subject, we are warranted in deciding that this disease was neither genuine typhus nor bilious fever, but a compound of both. In this opinion all the most intelligent physicians who are acquainted with the facts have long since concurred.

The next instances are those of the fevers which appeared in the Philadelphia almshouse in the summer of 1820 and 1821, and which were described by Drs. Klapp and Emerson.

Other instances are mentioned, taken from Pringle. Among these are the Morbus Hungaricus, and plague of Athens.

In some remarks which follow, Dr. Smith takes occasion to mention dysentery, the remote causes of which he very properly refers to the order Infection. In relation to the contagious attribute of dysentery, we observe the following satisfactory paragraph.

"Dysentery, like other febrile diseases, has long been considered as capable of propagating itself by means of a specific contagion. This error obviously originated from the common observation, that, during the period, when soldiers in camp, or the population of a district are predisposed to dysentery, those persons who surround patients ill of this form of fever, whose excretions are allowed to accumulate in unventilated apartments, frequently sicken with the same disease: but there is surely nothing in this which proves its specific contagiousness. In the majority of cases where the attendants sicken, it is from the same causes which induced the disease of the patient, though in some instances from the noxious vapours generated in his apartment; but in neither case is it certain that they will sicken with dysentery. The form of disease will depend upon the predisposition of the system, and accordingly as this tends to fever or dysentery, will the disease be characterized. Besides, it is undoubtedly true, that when there is an epidemic predisposition to dysentery, the attendants on a *typhous* patient, about whom cleanliness is not strictly observed, will more frequently sicken with that disorder, than the one under which the patient labours. This would be impossible, if the supposed dysenteric contagion were specifically different from the miasm arising from the excreta of those affected with typhus. In both cases the poison is *idio miasma*, and may induce either form of disease." pp. 65, 66.

Species of Infection. Each of the three genera already described is subdivided into two species, the mild and the malignant; to the first of which the Greek ordinal number πρωτος is prefixed, and to the second the intensive particle *per*. Thus the genus Koino Miasma may be either a proto-koino m. or mild species, or a perkoino m. or malignant species; and so with the others. The *proto-koino miasma*, then, includes intermittent and remittent fevers, and the *perkoino miasma* the yellow fever and the plague. To this we must object in most decided terms. 1st. Because we believe that the fevers in these two different species do not merely differ in

degree of violence, but are *essentially* distinct. And 2dly. Because there is abundant proof to show that it is not a greater intensity of the same causes which alone constitutes the difference between them. We insist the more on this objection, because Dr. Smith himself is equally opposed with ourselves to the view that identifies yellow and bilious remittent fevers. Now, a mere difference of grade would not constitute any essential distinction as to the identity of these two diseases; and besides, bilious remittent frequently assumes a type no less severe than yellow fever, from which it may still be, nevertheless, clearly distinguished. What still further confirms us in the propriety of submitting this objection, is the analogy we derive from the nature of the difference between the two similar species of the next genus—the protidio and the peridio miasma. The first differs from the latter in the single circumstance of being less severe, the fever produced by the former being typhus mitior, and that by the latter typhus gravior.

Order III. *Meteoration.* This includes all atmospheric sources of disease; such as vicissitudes of weather, and also those hidden influences of the air which seem to give energy to the ordinary causes of disease, and render their operation more pervading and certain. This order is divided into two genera: 1st. Sensible, and 2d. Insensible, or epidemic meteoration. The first applies to all those atmospheric causes of disease which are manifest to our senses. The second comprehends all those which are not appreciable by our present instrumenss and powers of perception, and is synonymous with the το θειον of Hippocrates, the *seminarium e cœlo demissum* of Diemerbroeck, the *general* or *primary contagion* of Webster, and *the epidemic or pestilential constitutions* of Sydenham.

Influenza, the pneumonia typhodes, which prevailed in this country in the years 1812, 13, the cholera morbus of India, and the Sudor Anglicus of 1483—5, are all referred to this head.

The Second Part of this interesting book is devoted to an inquiry into the philosophy of epidemics. After successfully

combating the arrangement of epidemics into vernal and autumnal proposed by Sydenham, into local and general by Webster, and also that by Adams, which altogether excludes contagious diseases; our author lays down the following division, founded upon the three orders of causes formerly described.

1. Contagious Epidemics. These are small-pox, measles, chicken-pox, scarlet fever, and hooping-cough. These diseases attack once only during life, and hence they prevail less generally than other epidemics. They occur in every season, and are sometimes very extensive in their ravages.

2. Infectious Epidemics, or those diseases which arise from the second order infection, and,

3. Meteorations Epidemics, or those from insensible or epidemic meteoration.

After thus arranging epidemics, our author takes up the highly important consideration of the manner in which they modify and supersede each other. The following general aphorism is laid down.

"Whenever any of the diseases belonging to the several classes of epidemics, prevail together in the same place, they become involved in each other in the order we have arranged them; e. g. if a *contagious* disorder, prevail during an *infectious* epidemic, the latter will modify the character of the former; and in like manner, if a *meteorations* epidemic occur with either or both of the preceding diseases, it will assimilate them more or less to its own nature." pp. 139, 140.

This, it will be seen, is a precise and satisfactory elucidation of the general law which has been so generally but vaguely insisted on, that "a prevailing disease swallows up all others, or compels them to wear its livery." It is no less happy than ingenious, and lends to this part of Dr. Smith's volume, peculiar interest and value. The following application of the law just laid down deserves to be read with attention.

"The diseases which belong to the first class are specific and contagious, and being incapable of poisoning the atmosphere generally, or of affecting persons a second time, cannot impart to the air the power of modifying

other prevailing complaints. The diseases of the second class depend upon the diffusion of a miasmal poison through a considerable tract of the atmosphere; and consequently, all the disorders of the first class, which occur within the circle of its range, are compelled to wear the livery of an infectious fever. The diseases of the third class arise from causes which have a sovereign influence on the human constitution, and of course, when they prevail epidemically, all other disorders assume their character.

"If a more explicit illustration of this law be required, let it be supposed that small-pox and measles are prevalent in a city or country town in which an *infectious* fever, for example bilious remittent fever, is at the same time epidemic. The miasm, which produces the latter, will affect all who are exposed to its influence—every disease will more or less assume the character of the reigning epidemic; and although small-pox and measles are essentially peculiar in their nature, they will nevertheless exhibit the modifying impressions of the prevailing infection. Both diseases will exhibit some of the symptoms of a bilious remittent fever, and their treatment will demand a correspondent modification. And again, suppose that a *meteoratious* epidemic, for instance influenza, appears during the prevalence of the diseases above mentioned. In this case, the small-pox and measles will be modified in a two-fold manner, first, by the infectious poison, and secondly, by the epidemic meteoration which produces the influenza; or, in other words, those disorders will discover the operation of three distinct remote causes, contagion, infection, and meteoration. In like manner, the bilious fever will betray the influence of the two latter. The predominating disease will obviously be the influenza." pp. 140, 141.

Examples are then adduced in proof of the general operation of the law, which we regret that our limits compel us to omit.

In the third section our author treats of the origin of the pyrexious contagions. These he traces at each successive reproduction to a meteoratious cause, which continues to influence their character, and also that of other incidental diseases. The subject is a mysterious one, and we cannot flatter Dr. Smith, that he has thrown much light on it.

In one of the notes to this section, are some very pertinent conclusions in relation to the varioloid disease, and to the undiminished confidence we should continue to maintain in the prophylactic powers of the cow-pox.

Section IV. *Of the varieties of Epidemic Meteoration, and of their laws and modus operandi.* Dr. Smith does not think that epidemic meteoration is of itself sufficient to the produc-

tion of keino miasmatic diseases. It does, however, favour the development and operation of their causes. When it thus combines with these latter, their joint influence is necessarily exerted with proportionably increased intensity. External nature presents, in general, phenomena by which their presence is denoted, and may even be foreseen. The author is inclined to the opinion, that electricity is a constituent of this meteoratious cause. This is of course mere speculation, and has been often indulged in before, without having as yet led to any very satisfactory conclusion, or practical benefit.

Some have pretended to deny the existence of any secret epidemic influence. That such influence does, however, exist, is sufficiently proved by the presence of effects, which can be attributed to no other causes. Among many instances in proof, we shall be content with citing a fact mentioned by our author in this section, relating to the singular power possessed by every epidemic, of assimilating all cases of disease to uniformity of character. Epidemic diseases vary in their diathesis in different seasons, being highly sthenic in some, and in others asthenic. They also vary in affecting different organs, and this can only be explained by calling in the interposition of a secret atmospherical agent, or of meteoration. Dr. Smith justly observes, that this determinate uniformity possessed by particular epidemics, is a beneficent provision of nature, as it enables physicians, after a short experience, to ascertain the nature of the peculiar treatment which may be necessary in any given epidemic.

We must pass over the remaining sections, for want of room, having already given our readers a pretty minute insight into the object and merits of this excellent treatise. It is not often that we are treated with such display of original thinking and ingenious speculation as we find in this volume. The phraseology and style, are, with a few trifling exceptions, correct, and in the true philosophical spirit, without any of those attempts at *fine writing*, which deform so many of our modern productions on medicine. We now take our leave of Dr.

Smith, expressing the hope that he will not relax in his efforts to collect and arrange all the facts that may come within his reach, and which are calculated to throw light on the important and curious objects of his investigation.

ART. II. ANATOMICAL INVESTIGATIONS, *comprising Descriptions of various Fasciæ of the Human Body; the Discoveries of the Manner in which the Pericardium is formed from the Superficial Fasciæ; the Capsular Ligament of the shoulder joint from the Brachial Fasciæ, and the Capsular Ligament of the hip joint from the Fascia Lata. To which is added, an Account of some irregularities of Structure and Morbid Anatomy; with a description of a new Anatomical Table.* By JOHN D. GODMAN, M. D. Lecturer on Anatomy and Physiology; Editor of the Journal of Foreign Medicine; Professor of Physiology to the Philadelphia Museum; Member of the Academy of Natural Sciences; Honorary Member of the Medical Societies of Philadelphia, Maryland, Baltimore, Lexington, Cincinnatti, Pittsburg, &c. Phila. H. C. Carey and I. Lea, 1824. 8vo. pp. 134.

DR. GODMAN divides his work into eleven sections, the first six of which are devoted to the examination of the various fasciæ of the human body; the seventh to irregularities of structure; the eighth to morbid anatomy; the ninth to some remarks on the hymen; the tenth to the vena azygos dorsalis, and the eleventh to the description of a new anatomical table. The remainder of the volume consists of a translation from the Latin of Scarpa's treatise on the Minute Anatomy of the Bones. We shall examine these sections in the order in which they stand.

Until within a few years the anatomy of the membranes, of which that of the fasciæ forms a subdivision, was an obscure and ill defined chaos; the notions of anatomists upon the subject were crude and indefinite; they gave isolated descrip-

tions of particular portions, usually in connexion with important organs, and by confounding tissues of one class with those of another, rendered the subject complex and almost unintelligible to the student. The eminent French physiologist and philosopher Pinel, first brought forward the idea of arranging the membranes in a general system according to the tissues of which they are composed. He had remarked the differences in structure in these parts, and the striking resemblance of diseases occurring in the same structure in different parts of the body. Thus, in his nosography, he has brought under a general head, all the affections of the serous tissues, as peritonitis, pleuritis, etc.; and under another, all those of the mucous tissues, as catarrh, leucorrhea, etc. Bichat, whose wonderful genius was equalled only by the astonishing industry which enabled him to build up, at an age when men usually commence their literary career, a reputation which would reflect honour on a head gray in study and research, seized upon this idea, and developed it in his admirable work on the Membranes.

Although no improvement has since been made in his general arrangement, much has been done in the minute study of particular portions, and especially in the class in which we are at this time most interested, the *fibrous membranes*. Gimbernat, Scarpa, Cooper, Colles, Ribes, Cloquet, and various others perhaps equally deserving of mention, have turned their attention to the subject, and illustrated several important points in the study of this branch of anatomy. In our country, little has been either attempted or accomplished; and this, perhaps, should be considered as a just ground for the commendation of Dr. Godman, apart from the merits of his work.

The first section commences with an account of the fascia superficialis; an important fibrous membrane, which covers the trunk of a great part of the extremities, the anatomy of which is easily comprehended, when it is regarded as a great whole, though difficult and obscure in the common mode of description. Dr. G. begins by making a crucial incision through

the integuments of the abdomen, till he arrives at the fascia, which he then traces downward toward the top of the thigh, till it reaches Poupart's ligament. Near the pubes it receives additional thickness from the cellular substance in that neighbourhood, is continued over the corpora cavernosa penis, and sends a prolongation into the scrotum. It is next traced over the crest of the ilium, when it is found covering the whole of the gluteal muscles.

"As we approach the tubera ischii, the fascia becomes more closely attached to the surface, and in many instances seems to terminate there. This, however, is not the case, as it may be followed across, covering the whole of the perineum, forming the strong fascia, which presents to the knife immediately after the first incision in lithotomy. We trace it from the perineum upward, until we lose it on the under surface of the penis, where it mingles with the covering which this organ derives from the anterior part of the fascia." p. 18.

Returning to the abdomen, the fascia is traced upwards over the sternum and pectoral muscles, spreading backward toward the spine, so as to cover the muscles of the back, and passing under the platysma myoides, ascends to the edge of the neck, where it is lost in cellular and muscular substance. Farther back, however, it passes up to the zygoma, covers the parotid gland, and extends itself over the occipito-frontalis muscle. Dr. G. then traces the fascia in its prolongations and windings in that part so important to practical surgery, the neck, with greater accuracy and precision than any writer we have met with. The subsequent remarks on the different modes in which the knowledge of this fascia may affect the conclusions of physicians, or the operations of surgery, might, we think, have been extended with advantage to a much greater length, and cases cited in confirmation would have had a powerful influence in impressing the anatomy of this membrane upon the mind.

The second section gives a minute account of the fasciæ of the neck, and shows in what manner the sheaths of the great vessels are formed.

"To be convinced of the fact that *all* the fasciæ of the neck are processes of the *fascia superficialis*—to be assured that there are *six* distinct

layers, or processes of this fascia on the front of the neck, and that the sheath for the vessels is formed by horizontal slips stretching from the anterior to the posterior portion, above, below, and between the jugular vein, carotid artery and eighth pair of nerves, it will be sufficient to pursue the following order of examination." p. 29.

The succeeding description, though neat and accurate, is too long to be quoted entire, and the attempt to condense it would render it unintelligible.

The third section treats of the formation of the pericardium from the fascia superficialis, which Dr. G. traces down the vessels of the neck, till it expands to form this sac.

"However, singular it may appear that this arrangement should not have been discovered until this time, it is by no means as singular, as that anatomists during so long a time should have remained contented to believe that a *serous* membrane like the *pleura*, could form a strong *fibrous* membrane like the *pericardium!*" p. 34.

We cannot deny that this discovery may have been original in Dr. G., but as the facts have long since been well known to anatomists, we can hardly allow him the honour of having first announced it to the world. Bichat says, "the free disconnected portion of the pericardium is manifestly *serous within*, and *fibrous without;* of the two laminæ which compose it, one is reflected over the origin of the great vessels and heart which it invests, *the other is continued with the fibrous tunic of these vessels.*"*

Here we have Dr. G's. *discovery* detailed in such clear and perspicuous language, as to render any comment unnecessary.

The fourth section shows the arrangement of the brachial fascia, and formation of the capsular ligament of the shoulder joint. The superficial anatomy of these parts is detailed with neatness and accuracy, and the mode in which the capsule of the shoulder joint is formed is well described. This too, is claimed in the title page as a discovery; but as in a former instance, Bichat unluckily has a few years the advance of

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* Treatise on the Membranes. Boston. 1813, p. 129.

our author. "All the synovial membranes are so united, both to the capsules of the joints when they exist, and to the fibrous sheaths of the tendons, that any separation is next to impossible."* And in another place, "the fibrous membranes, (of which the sheaths of the tendons and fasciæ form a part,) make but one whole, one single organ."

The next section presents us with the dissection of the fascia lata, which forms all the sheaths for the muscles of the thigh, and for the great artery and its branches after it passes through the tendon of the triceps. The mode of demonstration is lucid and ingenious, though too long to be extracted.

"However difficult the study of the fascia lata may appear from the description, it is by no means so difficult to comprehend when it is examined with the knife. When studied in the manner here directed, the satisfaction derived from the clearer understanding of the physiology of all the neighbouring parts, will more than compensate for the difficulties surmounted by the application necessary to see all that is described. The important influence exercised by the processes of this fascia (forming sheaths for the vessels and muscles) over various surgical diseases and operations, can only be perceived by one who is thoroughly acquainted with its true character, extent, and connexions." p. 45.

The sixth section gives the arrangement of the fascia interna abdominis, and the formation of the hip joint from the fascia lata.

Dr. G. proposes the general name of fascia interna abdominis, for the fibrous membrane continuous with the fascia lata of the thigh, parts of which have received the epithets, transversalis, iliaca, prostata, pelvica, etc. He commences his demonstration of this membrane, by cutting through the muscles of the abdomen midway between the spine of the ilium and the umbilicus, till he reaches the fascia, which he separates from the peritoneum, tracing it throughout the lateral and back parts of the abdomen, till he passes over the liver to the under surface of the diaphragm.

"Returning to the lower portion of the fascia interna, we raise it from the anterior superior spine of the ilium to the pubis, and in doing this we

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* Treatise on the membranes, Boston, 1813, p. 129.

have a beautiful view of the internal abdominal ring, the space by which the spermatic cord goes through this fascia to emerge on the pubis after passing through the tendon of the external oblique or external abdominal ring. This is the portion of the fascia *interna*, heretofore called fascia *transversalis*, and whose real character is of so much importance to the surgical practitioner. This part of the fascia interna fills the vacancy that would otherwise exist between the inferior edges of the internal oblique and transverse muscles and the edge of the pelvis, and was called fascia transversalis, because it was thought to be continuous with the transverse muscle." p. 49.

He then traces it from the pubic extremity of Poupart's ligament into the pelvis, where it forms the anterior ligaments of the bladder, and the triangular ligament of the urethra, while a process which goes down over the levator ani and obturator internus forms the fascia of the prostate gland.

In regard to the "interesting and surprising manner in which the great capsular ligament is formed from the fascia lata;" the remarks which we have just made on the capsule of the shoulder joint apply with full force and effect.

Under the head, irregularities of structure, several curious deviations from the ordinary course of nature are recorded. Two of the most interesting of these we shall extract.

"The *muscle* of the *thyroid gland*, was found in the Philadelphia anatomical rooms, twice during the winter, and four times during the month of March (1824.) The first instance was observed by a member of my class, *Mr. Alfred Hartwell*, of N. C. In four of these cases the muscle was on the left side, arising from the upper edge of the left lobe, and going up to be inserted into the os hyoides half-way between the base and appendix of that bone. In the other two instances the muscle arose from the centre of both lobes, through their whole extent, and was inserted directly into the centre of the base of the os hyoides.

"This singular muscle arising from a *gland* and inserted into a *bone*, was first described by Soemmering, and is said to occur once in five hundred subjects. Dr. Horner mentions in his anatomy, that he has not met with it in an experience of many years. From the results of our observations during the last session, I am inclined to believe that it occurs at least in three cases out of five, if it is not to be found in every case. That it may be very easily overlooked when it is confined to the left side, is not surprising when we observe that it runs almost directly in the same course with the thyro-hyoideus, from which it is separated only by very delicate cellular substance, and the portion extending below the origin of the

muscle last-mentioned so nearly resembles in colour the ordinary appearance of the membrane covering the gland, or the gland itself. Certain it is, that since our attention has been called to the subject, this muscle has been found in every body examined for the purpose." p. 56, 57.

The following cases of deviation from the ordinary structure, though perhaps rare, are still worthy of remembrance.

"During this winter, (1823–4,) we found *three* instances in which the *arteria innominata* gave off the *right and left carotids* and the right subclavian artery. If the operation of tying up the arteria innominata were performed on a patient, in whom the arteries were thus distributed, what would be the immediate consequence? The whole amount of the circulation would at once be cut off from the right arm, from the upper and central parts of the right side of the thorax, from the whole of the anterior of the neck and the parts about the tongue, the whole of the face and scalp, and from the whole of the anterior part of the brain. The possibility of this distribution should at last make us cautious of recommending this operation, without having most attentively examined all the chances of its failure; even though ever so correctly performed." p. 59, 60.

The eighth section details several instances of morbid organic change of structure, which have fallen under the eye of the author in the course of his dissections. All cases of this kind are interesting to the medical practitioner, and more or less instructive.

Section ninth records three instances in the course of one season, in which Dr. G. met with the hymen in a perfect state. An engraving of one of them is given from a drawing by that admirable draughtsman Mr. Leseur.

In section tenth is described a "vein not figured or described in any book of anatomy to which I have had access, and for which I have proposed the name of azygos dorsalis from its peculiar character."

"This vein lies immediately under the integuments of the back, and emerges at a short distance above the origin of the trapesius muscle. It ascends external to the trapesius as a distinct trunk, receiving branches from both parts of the muscle, until it has risen as high as between the third and fourth dorsal vertebræ. Then it separates into two trunks, which diverge an inch or more from the spine, and penetrate the muscle immediately above the second dorsal vertebræ, and empty their blood into the subclavians by means of the deep-seated cervical veins." p. 78.

The last original article is an account of a table for the use of the dissecting-room, and for demonstrations before a class. It is the invention of Mr. Coleman Sellers of Philadelphia, and seems to us to be ingeniously contrived for the purpose for which it is intended.

The remainder of the volume consists of a translation from the Latin of Scarpa's valuable treatise on the Minute Anatomy of the Bones.

This work, as a whole, presents decided proofs of the industry and spirit with which its author pursues the study of anatomy; its style is respectable, and the plates are well executed from drawings which bear the impress of no ordinary graphic talent. Before we leave our author, we take the liberty to suggest, that while investigating the great book of nature, an attentive study of the labours of those who have travelled the same path before him, will render his own journey less difficult, and will prevent his falling into the disagreeable predicament of considering an established fact as a recent discovery.

ART. III. AN EXPOSITION *of the* DANGERS OF INTERMENT *in Cities; illustrated by an Account of the Funeral Rites and Customs of the Hebrews, Greeks, Romans, and primitive Christians; by ancient and modern Ecclesiastical Canons, Civil Statutes, and Municipal Regulations; and by chemical and physical Principles.* Chiefly from the works of VICQ D'AZYR of France, and Professor SCIPIONE PIATTOLI of Modena. With additions by FELIX PASCALIS, M. D. 8vo. 1823. pp. 167. W. B. Gilley. New-York.

WE must apologize to our readers for neglecting so long to notice this work, and to give them some account of its objects and contents. It is not too late, however, to present to their consideration some remarks on a subject which still continues to agitate the public, and on which the whole com-

munity are interested. It is the duty of the living to provide for the proper disposition of the dead. In the country generally, and in towns and villages where the population is not great, there is no difficulty; but in large cities, as in Boston, New-York, Philadelphia, Baltimore, &c. where the inhabitants are annually increasing, a question has arisen as to the propriety of interments within their limits. The people of New-York are divided on this subject. The work before us with the above title takes one side of the question, and endeavours to show the "dangers of interment in cities."

In 1822, the yellow fever was endemic in New-York, and as it commenced in the neighbourhood of Trinity Church, the advocates of domestic origin pointed to the burying-ground as one source of the disease. Physicians and others who favour the opinion of importation, traced the disease to a vessel at the foot of Rector-street, in the vicinity of the church and its cemetery. During the summer and autumn of 1822, many cases of sickness and death occurred in the immediate vicinity of this depository of the dead. In the succeeding winter the municipal authority of New-York passed an ordinance prohibiting further interments within the thickly settled parts of the city. This act has given rise to much controversy on the subject of interments, and some have opposed the law, as improperly invading the rights of the people. An appeal has been made to the courts of law, and the question is yet to be decided by a jury of the country. The municipal authority, which is vested in the corporation of the city, has the power to correct and remove nuisances, and in 1813, the Legislature of the State passed an act authorising the local authorities "*to regulate or prevent the interment of the dead within the city.*" The corporation of New-York, in declaring by their act that the burying-grounds in the city were nuisances, and dangerous to the health of the inhabitants, have not acted illegally or tyrannically, because they were authorised so to do whenever, in their judgment, the cemeteries became offensive or dangerous, or were likely to become so. After the sickness of 1822, facts and state-

ments were laid before the Board of Health, that the effluvia arising from Trinity Church burying-ground, and some others, were often offensive, and particularly so during the sickly period. Hence, under the general authority vested in them by the State Legislature, the corporation proceeded to pass the ordinance above mentioned. In so doing, they were supported by the opinions of physicians on both sides of the controverted question of the origin of yellow fever.

If, as one party contends, that this disease is of domestic origin, and that it may arise from the putrid effluvia of burying-grounds as well as other sources of putrefaction, it was necessary that Trinity church-yard should be closed to the future reception of the dead, because it had become overcharged with burials, and was offensive and injurious to health. If one church cemetery had become so, others might, and in passing a law on the subject of interments, it was made general.

On the other hand, it is contended by those who espouse the importation and contagion of yellow fever, that it spreads with greater rapidity and becomes more malignant in an atmosphere contaminated with the effluvia of putrefaction. If, therefore, Trinity church-yard did or might produce offensive emanations, it was necessary to close it, lest by the importation of a contagious disease, it might be rendered more fatal.

Thus the corporation was supported by the doctrines of both parties without espousing either; and with the representations of offensive effluvia arising from the burying-grounds, and being authorised by the laws of the State, they proceeeded to pass an ordinance prohibiting interments in the city.

Dr. Pascalis, a gentleman so long known and distinguished in the medical world, the author and translator of the work under consideration, justifies the proceedings of the corporation, and eulogizes them in the following words, in his preface to the publication.

"I now beg leave to take this method of congratulating my fellow-citizens on the firm and wise plan of operations begun by our magistrates and the

Board of Health. In endeavouring to rescue our city from the visitation of malignant fevers, they have scrupulously avoided enlisting themselves under this or that theorist on the origin of summer and fall fevers. With more prudence and philosophy, they strike at the root of every ostensible source of a calamity that more probably is the effect of a combination of several causes, than the effect of a single one. This procedure has been constituted one of their official duties by the Legislature, in 1813, which directed them "*to regulate or prevent the interment of the dead within the city.*" May they continue to prosecute their task successfully. Public officers are seldom rewarded with public approbation; and the testimony of upright intentions is too often their only recompense; but I hope that these, more fortunate than the generality, will deservedly enjoy the perfect confidence of the community, and the harmonious concurrence of their fellow-citizens in their measures for the present emergency." p. 5.

The work prefaced by the above observations is composed of three parts. The principal part or body of the work contains fifteen chapters, under distinct heads, followed by a series of notes, and an appendix. It contains a body of facts, illustrations, and reasonings, on the dangerous practice of interments in cities; and there is nothing that so strongly fortifies the measures of the corporation in relation to interments in this city. Every good citizen who reads this "Exposition," must be satisfied that it is time to stop burying dead bodies in the midst of a crowded population, and will therefore acquiesce in the ordinance of the corporation preventing interments within certain limits, and providing an extensive burying-ground at a distance from the city.

In order the better to understand the contents of the "Exposition," we shall direct the reader's attention to some of its parts.

The 1st chapter contains a general view of the modes of interment or disposal of the dead in ancient times. Reference to the practice of very remote periods can have very little weight on the propriety or impropriety of the modern practice of interments, and of course this chapter is important only in connecting the history of burials in those times with the less ancient and modern practices.

The 2d chapter is short and compendious, and goes on to show that before the Christian era, burials at a distance from dwellings was practised among the Hebrews.

The 3d and 4th chapters treat of the funeral ceremonies of the Greeks and Romans, in which we find the same general practice prevailing of interments out of cities.

Of the funeral rites of the early Christians, treated of in the 5th chapter, we find much information; and that the salutary custom of interring the dead apart from the living began from various causes to be infringed.

"The wish of retaining the dead within cities, seemed to increase even by impediments. It became regarded as an enviable privilege to be allowed to occupy after death the places where holy persons had been in the habit of offering their prayers to heaven. And at length they carried their respect so far, as to believe that there were emanations from the bodies of saints, of power to warm the hearts of the devotional, and to yield impressions capable of disposing to fervour and piety." p. 33.

Hence the next step was the introduction of interments into towns and churches. These are treated of in the 6th chapter. The practice was gradually brought about, and the first privilege of the kind was granted to the Emperor Constantine, who was the first of regal dignity to embrace the christian faith. It was for a long time only considered the privilege of kings, and successively became the right of bishops, saints, martyrs, persons of pious lives, and then the rich. Thus it progressed until it became the right of all.

In the 7th chapter of the Exposition, we have a compendious account of the acts of various councils from the 10th to the 18th century, in different Catholic countries against the practice of interments in and about churches. These became necessary at various times in different parts of Europe, in consequence of the departure from primitive and salutary customs, and the injurions effects of such departure. Hence many civil and ecclesiastical laws were ordained to prevent the recurrence of offensive effluvia, sickness, and epidemic diseases which had frequently arisen from burials in churches and cities. Among these are to be found the ordinance of

the archbishop of Thoulouse against interment in churches. The translation of the ordinance in full from the French of Vicq D'Azyr is omitted, but the substance of it is given.

The 8th chapter of the Exposition contains entire the pastoral address of the archbishop on this subject. This address is contained in twelve pages of the present publication of Dr. Pascalis. It is an elegant piece of composition, and does great credit to the head and heart that conceived it. It is a moving appeal to the religion and good sense of all concerned, and in its present English dress, it is not wanting in the characteristics of good writing. This chapter alone, distinguished for its strength of argument, and the purity of its religion, would be a treat to the pious, and to all others who seek for information on the dangers of interment in cities.

The same arguments that were used in the time of the archbishop against the laws prohibiting interments in churches and cities, are revived in this city in opposition to the law of the corporation. The right of burial was construed into a right in *fee simple*, and the clergy complained of the curtailment of their revenues.

Thus too some of our fellow-citizens have purchased the right of burial in a city grave-yard, built a vault therein, and have therefore concluded that they possessed an absolute right, (quoad hoc,) and that it was as perfect as a right in fee simple; whereas this right is qualified or granted for a special purpose, and as it is subject to inspection or supervision by the municipal authorities, and by the late law may be taken away, the parties deeming themselves aggrieved, have no remedy, unless they can show the state law to be unconstitutional.

On the subject of the modern statutes against interments in churches and towns, contained in the 9th chapter, we find it stated in the work under consideration, that

> "Medical men assure us that the vapours exhaling from putrefaction fill the air with chemical compounds dangerous to health, and productive of malignant diseases. The epidemics which prevail in the warm season confirm this assertion." p. 61.

In 1765 a decree was issued by the parliament of Paris to prevent future burials in the city, and to provide for cemeteries at a distance from the suburbs. In the preamble to that decree we have the following statement.

"Daily complaints are made on the infectious effect of the parish cemeteries, especially when the heats of summer have increased the exhalations; then the air is so corrupted, that the most necessary aliments will only keep a few hours, in the neighbouring houses: this proceeds either from the soil being so completely saturated, that it cannot retain or absorb any longer the putrescent dissolution, or from the too circumscribed extent of the ground for the number of dead annually interred. The same spot is repeatedly used; and by the carelessness of those who inter the dead, the graves are, perhaps, often re-opened too soon." p. 58.

The following account is given of the causes which operated in originating, and afterwards perpetuating the practice of burying the dead in cities.

"The practice of intermixing the dead with the living, would never have grown to such an intolerable height, though aided by all the pride of the great, all the immorality of the rich, and the desire of distinction inherent in all ranks, if the reverence for the relics of saints, and the blind belief in the power of the church over souls after death, had not rooted in the hearts of the people, a strong conviction that a grave in the cloister, the galilee, the portico, the chapel or the aisle, was a strong hold for protection against the arch-enemy, and a passport to heaven. As this superstition declined, or became modified, the practice to which it had given rise still continued, and grew more and more immoveable the more it was habitual. It is the same in thousands of things to this day, even where the original motive is forgotten, and such is the force of custom, that it continues in cemeteries consecrated by the vicinity of particular churches to so great a degree, that the peace of the grave is continually violated to crowd new tenants into the spot hallowed by them in life, by pious associations." p. 64, 65.

To prove the danger of interments in cities and in churches, either in graves or vaults, the facts contained in the 10th and 11th chapters, and in the appendix, are too numerous to extract, but they will be found strong and pointed. All those who are interested in the question, either for or against the late ordinance of the corporation, ought to read this book, or at least these two chapters, as containing facts upon which our reasoning on either side must be based.

"The rulers of mankind (says the author of the Exposition in the 12th chapter,) have not devoted much consideration to the investigation of the causes which might so far corrupt the atmosphere, as to create mortal diseases at particular periods of time, or why these plagues should always appear in the vicinity of stagnant waters; shallow ponds; marshes; low and muddy lands; receptacles of dead animals or vegetable substances; in the neighbourhood of the slain after battle; in cities ravished by famine and conflagration; why columns of air have been rendered so noxious, that the very birds that attempted to fly through them, fell and perished: why the winds, disseminating their aerial poison, transported the breath of pestilence into rich, fertile, and thickly inhabited districts. With the story of such terrible devastations, the pages of history are filled; and they have been accounted for as the result of divine anger, as the wrath of heaven against conquerors, or even as a provision of providence to rid the earth of a superfluous population!" p. 93

There is nothing very particular to call the attention of our readers in the 13th chapter, on the topography of New-York, nor in the 14th chapter, being a refutation of the objections raised against the prohibition of interment within certain limits of this city. The 15th and last chapter contains a plan and description of a general cemetery, or "*Polyandrium.*" There are some sensible remarks in this chapter, whichis from the pen of Dr. Pascalis; but as our limits forbid further quotations, we respectfully refer our readers to the original.

The work under consideration is partly a translation, partly a compilation, and partly original. The translation appears to be free and not literal, and is well executed. Some of the facts are compiled with reference to authorities. In the part which is original, we think there is an improvement in the style of writing, if we may judge from what we have seen of other writings of Dr. Pascalis. On the whole, whether the book is well or badly written or composed, the facts contained in it speak for themselves.

The question now at issue between the corporation of the city and the proprietors of vaults, turns upon the right of property in the soil where vaults are built, thereby avoiding the main question. If it shall be determined that the right is absolute, then the practice of burial in the city must be re-

newed. It is therefore incumbent on the community to be informed, and hear both sides of the question, and as the work before us appears not to have circulated very extensively, it is recommended to the attention of the public as containing an able exposition of one side of the controverted question of interments. It is not our intention to enter into the argument, but simply to give an outline of the object and contents of the work.

ART. IV. ANALES *de la Academia de Medicina de Buenos Ayres.* No. I. Agosto de 1823. Buenos Ayres. 1823.

ANNALS *of the Academy of Medicine of Buenos Ayres.* No. I. pp. 99. August 1823. Buenos Ayres. 1823.

THE appearance of a work like the present from South America, is a novelty which we take great pleasure in presenting to the notice of our readers, and which we hope may prove merely the prelude to a series of contributions to medical science from a portion of our globe rising every day in interest and importance. We shall give a brief analysis of it, principally with a view of making our readers acquainted with the nature and objects of the " academy," and the spirit with which it has commenced its labours.

Besides an Introduction, in which the medical character and institutions of our own country are spoken of in the most flattering terms, the Number contains six articles. The first article is the Discourse delivered before the Academy at the opening of the sessions for the year 1823, on the 19th of April of that year, by the Secretary, Don Juan Antonio Fernandez. It appears from this discourse that the Academy was first installed by a supreme decree of the government on the 18th of April, 1822. After adopting a constitution, they proceeded to select the list of subjects which should be proposed for the premiums offered by the government. The sixth subject

involves the consideration of *trismus nascentium* and *angina gangrenosa*, two diseases very prevalent in the country among children.

The second article is a memoir on the new alkalies, cinchonina and quinina, discovered in the cinchona by Mess. Pelletier and Caventou. This paper is principally abstracted from a memoir on the same subject published at Paris, and was read before the Academy by Don Manuel Moreno.

The third article is a memoir on the use of iodine in bronchocele and scrofula, by the same.

The fourth article is the record of a case of confluent smallpox occurring in a child of fourteen months old, and complicated with croup. The child died, and on dissection a white and mucous substance was found on the superior portion of the œsophagus; the velum pendulum palati was red, and had the appearance of having been inflamed. The larynx was more affected, and all its anterior surface covered with a false membrane or albuminous exudation; the opening of the glottis was entirely closed, partly by this concretion and partly by a mucous matter. No other viscus presented any marks of disease.

The fifth article is a memoir on the use of the nitro-muriatic acid bath in hepatic affections, by Mr. James Lepper.

The sixth and last article is a discourse serving for an introductory lecture to a course of chemistry, by Don Manuel Moreno.

The following is the *Program*, or table of the objectsof the Academy for 1823.

1. Situation of Buenos Ayres, its atmosphere, temperature, and variations. 2. Composition and quality of its soil, and of its water. 3. Physical character of the inhabitants. 4. Moral disposition of the same, prior to and after the Revolution. 5. Nature of the aliments in use; influence of these upon the two preceding. 6. Customs observed in Buenos Ayres. 7. Diseases peculiar to the country. 8. Diseases peculiar to the different seasons. 9. Remedies in use in the country. 10. Accounts of new methods of cure pub-

lished in Europe. 11. Observations on private hygiene proper to Buenos Ayres. 12. Do. on public hygiene. 13. Project for a pharmaceutic code. 14. Labours for the Flora Argentina. 15. Do. for a geology of the country.

The following are proposed as Prize Questions by the Academy—the premium for each to be a gold medal of the value of two hundred dollars.

" What causes produce in our country the Angina Gangrenosa, and what is its method of cure ?"

" To determine the general modification which the European modes of cure must undergo in order to be applicable to the diseases of this country ?"

" What causes can produce in these countries the disease known under the name of Trismus Nascentium, and what is its mode of cure ?"

The seal of the Academy represents the temple of Minerva, supported by six columns—on its cupola the sun—in its centre the genius of liberty, with other emblems; and around, the following inscription : *Medicinæ ac Naturalium Scientiarum Bonaerensis Academiæ.*

Medical and Philosophical Intelligence.

FOREIGN.

Rupture of the Vena Cava.—M. Dommanget relates the case of an officer of light infantry, of the army of Spain, aged twenty-five, who had enjoyed general good health until a month prior to the 23d of December, 1822, when he was confined to his house by a catarrhal affection, followed by an inflammation of the pleura on the right side. An antiphlogistic treatment removed these affections; but, on the 25th, the patient experiencing a dull pain between the shoulders, two cupping glasses were applied, and the pain disappeared. He continued to get better, and on the 30th was completely convalescent, passing the day with his comrades, and going to bed apparently in good health. On the 31st, at nine o'clock in the morning,

the patient complained suddenly of a pain resembling the colic, situated just below the pit of the stomach, with a sensation of weight at the epigastric region, which he supposed to be occasioned by the weight of something which he could not get rid of, notwithstanding the frequent endeavours to vomit which he experienced. When seen by Dr. Berge (in the absence of M. Dommanget,) he was found sitting upon his bed, his body leaning forwards, the hands crossed upon the epigastric region, which he was pressing forcibly, complaining of deep-seated and very violent pains; the abdomen retracted; the face pale and pinched in; respiration laboured, and a small, but not frequent, pulse. The patient lived in this condition about two hours, making repeated efforts to vomit, the respiration becoming gradually quicker, and the sense of suffocation more intense. Dissection showed at once the cause of this officer's death. The lungs were in a healthy condition, but at the lower part, on the right side, a quantity of coagulum, weighing thirty-six ounces, was found, and at least twelve ounces of bloody serum; on the left side another coagulum, weighing two ounces, was found, and the lung on this side had contracted, at its upper part, some slight adhesions to the pleura costalis. On examining, a tumor of two inches and a half in width, by five inches in length, was found on the right side of the vertebral column, in the course of the vena cava: towards the middle of this tumor were several abrasions, or ragged openings of the pleura, about half an inch in length, from which the blood had escaped into the chest. On dissecting the tumor carefully, it presented the appearance of a substance analogous to the spleen, though not quite so firm: fibres, running in every direction, were observed. In the centre of this fungous tumor, which appeared to be a recent formation, there was a rent parallel to that in the pleura, corresponding to a canal ten lines in diameter, which formed a substitute for the vena cava for the space of about four inches and a half, extending to the right auricle. Two other tumors, resembling the former, were found,—one in the left side of the chest, the other on the small curvature of the stomach, near the cardiac extremity. The author concludes the above tumor to have been of the nature of fungus hæmatodes.—*Lon. Med. & Phys. Jour.*

Hydrocyanic Acid in Tænia.—M. Galneche, of Stettin, records the following case.—A boy, three and a half years old, who was afflicted with the *tænia lata*, was recommended to eat strawberries for two days in as great quantities as he pleases, the author observing that where the presence of this worm is suspected, the strawberry generally produces a discharge of some few portions. The third day, at six in the morning, half an ounce of castor-oil was given; at half-past six, seven, and half-past seven, he took each time fifteen grs. of the powder of male fern root; and, at eight o'clock, six drachms of castor-oil. At half-past eight an abundant serous motion took place, and a quarter of an ell of the worm escaped from the anus; the little patient was then placed upon warm water, into which the

worm was suffered to be suspended; it was slightly laid hold of at the orifice of the anus, and rubbed over for the space of four inches, with hydrocyanic acid. It immediately made strong efforts to return into the abdomen, so that it was obliged to be held with some degree of force; it suffered some convulsive motions, and was expelled the length of an ell and a half. At the termination of an hour and a half, another evacuation produced the remainder of the worm, two ells long: the animal was dead, it terminated in a threadlike extremity, surmounted with a reddish head of the size of a millet seed, armed with a little sucker.—*Ibid.*

Common Salt to correct the fœtor of Cancerous Sores.—M. Liaubon relates the case of a female with a cancerous ulcer in the right breast, who suffered extremely from the fœtor of the discharge, which was so intolerable, that the person who assisted in dressing the wound could scarcely remain in the room. M. Liaubon ordered a lotion of salt, dissolved in water, to wash the parts: the disease was not arrested by these means, but the fœtor was entirely destroyed.—*Ibid.*

Substitute for Castor Oil.—M. Hufeland asserts, that by mixing one drop of the oil of Croton with an ounce of the syrup of poppy, a preparation is obtained, resembling, in a great degree, the Castor oil, and of which one spoonful produces analogous effects. Many successful experiments have been made with this preparation in the Polyclinic School at Berlin.—*Ibid.*

Efficacy of Nitrate of Potass in the treatment of Hemorrhage.—Dr. Zuccari, after various other remedies had proved unsuccessful, had recourse to *pure* nitrate of potass, and asserts, that it had been followed by continued success. He administered it as follows:—After a small bleeding, which was not always necessary, he mixed nitrate of potass, in the quantity of from four to six drachms, in an ounce of gum water, two or three tablespoonfuls of which were taken every hour; and refrigerant drinks, with light soup. The dose of the nitrate has been carried to the extent of an ounce, in the same quantity of the vehicle above mentioned, without producing any inconvenience. The author of the paper adds, that he is about to publish a work on the subject.—*Ibid.*

Sugar in the Blood of diabetic Patients.—MM. Vauquelin and Legelas D'Etchepare relate, that, taking advantage of the admission of a woman, fifty years of age, labouring under diabetes, into the Hôtel Dieu, under the care of Dr. Asselin, they determined to put to the proof the assertion made in the Dictionnaire des Sciences Medicales, article *Diabetes*, relative to the presence of sugar in the blood of patients affected with this disease; an assertion which, although in conformity with the theoretical views of certain physiologists, is in direct contradiction to the results obtained by many

skilful experimentalists, particularly MM. Dupuytren and Thenard. In consequence of inflammatory symptoms rendering two large bleedings necessary, the blood was analysed twice with the utmost care; but it was not possible to discover a single atom of sugar, although the urine which the patient passed, to the amount of nine or ten pints in the day, contained a seventh part of the substance. The saliva, also, examined at two different times, was entirely free from all trace of sugar.

The author of the article in the Dictionary having proposed urea as a remedy in this disease, the patient was put upon the use of it for several days; and the urine made during its exhibition was analysed, in the hopes of discovering some traces of it. But the search was in vain: the urine retained its morbid qualities, but was considerably augmented in quantity. It is scarcely necessary to observe, that this result does not prove that the sugar is formed by the kidneys. It may, in fact, exist in the blood, and yet may not be detectable by our methods of analysis, as was demonstrated in the case of urea, by the labours of MM. Prevost and Dumas, as well as our own.—*Ibid.*

Mercury in the Urine.—Dr. Canton has made the following experiments:—Sixty pounds of the urine of syphilitic patients, under the use of mercurial frictions, became alkaline in a short space of time, giving an abundant precipitate, which was separated by filteration. The fluid, subjected to various trials, did not afford any indication of the presence of mercury. The precipitate, mixed with equal weights of charcoal and carbonate of potash, and a sufficient quantity of water to form a paste, was submitted gradually to a red heat in a glass retort, the neck of which was plunged into a receiver filled with water. At the termination of the experiment, a pulvurulent precipitate was observed, which, after having been dried, gave out globules of quicksilver by simple compression: the quantity appeared to amount to more than twenty grains. The neck of the retort also contained a considerable number of small globules.—*Ibid.*

Utility of fresh Vegetebles in Fever, when placed near the Patient.—We have received a letter from Mr. S. Shatte, of Stokenham, Devon, the purport of which is to call to our notice a practice formerly recommended by some of the ancient writers on medicine, and which, he says, he has found of great service in fevers of the typhoid kind. A short extract from our venerable correspondent's letter will explain his meaning sufficiently.

"In 1821, when typhus fever was very prevalent in this neighbourhood, I made several trials of this remedy. G. F., in the village of Chillington, who was taken ill with that disease, having a wife and two children, with only two small rooms up stairs: I immediately had the rooms and the bed covered with wet bushes or boughs of ash, hazle, willow, or any green shrubs that could be procured. The old ones were carried out, and fresh

ones brought in every morning: and I am of opinion that, when they are brought in with the dew upon them, they are more efficacious: at all events, they must be made very wet with cold water, and be in considerable quantities, so as to cover the whole room."

In one case, our correspondent adds that they appeared to revive a patient almost at the point of death.

Mr. S. adds several quotations from Fernelius, Nic. Fontano, &c. who advocate the same practice; and finally he objects, and we think with great reason, to the abstraction of large quantities of blood in pure fever likely to assume a typhoid character.—*Ibid.*

On the active Principle of Colocynth (*Colocyntine.*)—The following account is extracted from a paper by M. Vauquelin:—

Colocynth, treated with alcohol, yields the bitter substance much purer than when water is used. The alcoholic solution, evaporated, yields a very brittle substance, of a gold-yellow colour, which, when put into cold water, produces a solution, whilst white opaque filaments remain, which ultimately form a soft, semi-transparent, yellow mass, resembling some resins. If the aqueous solution be heated, it becomes turbid, and there form, both on its surface and at its bottom, yellow drops, resembling a fused resin; these, when cold, become hard and brittle. The solution, re-heated, is again rendered turbid; and this effect is produced until the whole is evaporated.

It is found, on examination, that the substance remaining undissolved by the water at first, is of the same nature as that dissolved, and may itself be dissolved in abundance of water. It appears that the first portion of water dissolves more than the second or third, from the presence probably of some acid taken up by it. A yellowish-brown extractive matter also appears to be present; for the first solution is much more coloured than the second, and the product of the second solution evaporated appears to be much purer than that of the first. If, by successive operations, the resin-like substance be separated, the last, or mother liquor, contains a substance considerably soluble in water, and but slightly troubled by infusion of galls: the turbidness is occasioned probably by the presence of the bitter substance, a portion, as is evident to the taste, remaining.

The bitter resin-like substance is slightly soluble in water; considerably so in alkaline solutions; abundantly precipitated by infusion of galls, but not at all by acetate of lead. When heated, it yields a white vapour, of which the taste is not bitter, and leaves a very bulky charcoal. Nitric acid dissolves it, and the acid is decomposed, acting upon the substance, although with difficulty. If the solution be diluted, part of the substance precipitates in very bitter white flocculi.

This substance, containing the bitterness of the colocynth, appears to M. Vauquelin to be a particular principle. It is very soluble in alcohol, less so by far in water, but giving a solution of extreme bitterness, and frothing on agitation. He proposes for it the name of Colocyntine.—*Ibid.*

Experiments made upon six decapitated Robbers. By Professer Bartels.—On the 14th October, 1811, six highway robbers were beheaded near Marburg; one of them was sixty years of age, the other five from twenty to thirty. At the instant when the head of the first fell, the trunk got up again, as if the individual had been about to rise upon his feet, while the bodies of the others fell down flat at the very moment: when a little after the heads were thrown at the foot of the scaffold, we saw all the muscles of the face of the last executed completely relax, while those of the old man presented a general contraction, which lasted for a considerable time. These opposite effects took place without the occurrence of any difference in the mode of decapitation to which they could be attributed; with respect to this, it will not be useless to remark, that there remained at least two vertebræ attached to each of the heads. It was observed, that, at the moment of decapitation, the muscles of the face of the greater number of the heads contracted in a convulsive manner. As the head of the first decapitated had not been brought with the rest, no other observations were made with regard to it. The second, which fell ten minutes after it, was observed without loss of time. It was tried at first to excite a contraction of the iris, by pricking that organ, but no apparent motion was obtained. The same operation having been made upon the iris of the third head, the pupil dilated a little, and again quickly contracted; while, at the same time, the pupil of the other eye (which had not been pricked) contracted, and again immediately dilated; an effect which Professor Trenderoth, as well as Messrs. Bunger and Herold, who were also present, saw in the most evident manner. Some minutes after decapitation, the bodies were opened: the heart contracted and dilated alternately with much force, in such a manner as to produce regular pulsations. At the end of ten minutes these motions had, it is true, abated a little; but they were always incessant, and the alternate contraction and dilatation preserved their regularity. Five minutes later, these motions had become unequal and very weak; they revived, however, when the heart was irritated by pinching it. A mechanical irritation made upon a branch of the great sympathetic, accelerated a little the motion of the heart, but only for a minute at most; the motion itself, however, continued for a long time, only decreasing in intensity. A puncture made in the transverse muscle of the abdomen of the same body occasioned strong convulsions, especially in the lower extremities, and yet the nerves had not been immediately irritated. A mechanical irritation made at the lower part of the spinal marrow, caused violent contractions in the muscles of the trunk, as well as in those of the neck, particularly those of the upper part, at the place of the section (which had already been frequently remarked.) On irritating the upper part of the spinal marrow of another head, convulsive motions were produced in the muscles of the face, and there resulted a movement of the tongue and surrounding muscles. In the third body, a motion was remarked in the lower part of the trachea which remained attached to the trunk: this motion was accompanied with a sort of hissing

an effect caused without doubt by the convulsive contractions of the muscles which had been cut. Similar motions took place in all the others. The head of the last decapitated was transported to the theatre, which, on account of the distance, occasioned the loss of an hour. Here, our first care was to try the duration of the galvanic irritation upon the different muscles of the head. The elevator-muscle of the upper eyelid, and the superior oblique muscle no longer contracted; but the frontal muscles, the orbicularis palpebrarum, masseter, digastric, &c. still continued to contract. The contractions ceased first in the masseter muscle; they were prolonged in the buccinator. Two hours after execution, it had entirely ceased in all the muscles, and it could not be excited on moistening them anew. In another head, cut off twenty minutes at least before the preceding, the galvanic irritation caused the depressor commissuræ labiarum, the orbicularis palpebrarum, and masseter, to contract; this latter always much longer than the others. Two hours and three quarters after decapitation, the muscles of this head appeared to have lost all irritability. Before concluding our experiments upon the head of the last decapitated, we exposed the pectoralis major and minor of a body which was brought in. The large pectoral muscle alone contracted under the influence of the galvanic fluid, the muscles of the abdomen no longer contracted; contraction took place only in the right triceps muscle, and in the sartorius; they ceased always in the latter half an hour sooner than in the other. Irritation applied to the transverse muscle of this body, no longer produced contraction; which we attributed to the circumstance that the body had been opened at the place of execution, after the first experiment. In another body, which had been opened at the same time, the application of galvanism also produced some motions, as well as a feeble contraction, which was not renewed: mechanical irritation produced none. An hour and a half after execution, the natural motion of the heart had ceased in the bodies already carried to the theatre. We were still, however, in hopes to produce contraction by means of irritation; not being able to get at the heart of the body which had been first opened, we proceeded to that of a body which had been newly opened. This last had also retained its heat, principally in the internal parts; the heart still contained a little blood, of a deep colour, in the left ventricle, which was partly fluid and partly coagulated; but we could not, either mechanically or by means of galvanism, excite any contraction of the muscular fibres of the heart.—*London Medical Repository.*

On the Detection of Hydrocyanic Acid in the bodies of Animals poisoned by it.—The Report on a Memoir by M. Laissaigne on this subject, states, that having prepared the pure hydrocyanic acid, according to M. Gay Lussac's method, it was diluted with five times its weight of water to retard its spontaneous decomposition. A ten thousandth of this acid in water could be detected by persulphate of iron; i. e. a grain of the diluted acid

being added to eighteen ounces of water, was rendered sensible by the action of the ferruginous salt.

This test, although very delicate, is surpassed by another, in which copper is used, and which will detect the one-twenty-thousandth of the hydrocyanic acid in solution in water. The mode of operation is to render the liquid containing the hydrocyanic acid slightly alkaline with potash; add a few drops of sulphate of copper, and afterwards sufficient muriatic acid to re-dissolve the excess of oxide of copper. The liquid appears more or less milky, according to the quantity of hydrocyanic acid present. A singular property of the precipitate thus diffused through twenty thousand parts of water, is, that after some hours it re-dissolves, especially if the muriatic acid added be in sensible excess.

Nitrate of silver is also a good re-agent for detecting hydrocyanic acid, but the appearance too much resembles that produced by the presence of muriatic acid.

A cat was poisoned by twelve drops of the hydrocyanic acid in sixty drops of water; the animal died one minute after having swallowed the poison. At the moment of its death a vapour came from its throat, smelling strongly of the acid, and a paper moistened with alkali, when held to it, was afterwards rendered blue by persulphate of iron. The animal was retained at the temperature of 50° F. for eighteen hours, and then opened. The odour of prussic acid was readily perceived in the brain, spinal marrow, and thoracic organs. It was but slightly sensible in the stomach, which contained nothing but mucus; but on cutting the organ in pieces it was developed. The stomach was cut into pieces under water, and distilled with the water; when about an eighth of the liquid had passed over, it was mixed with potash and persulphate of iron, and soon gave a feeble blue tint, leaving no doubt of the presence of hydrocyanic acid. The test by copper gave it still more sensibly. The copper tested prussic acid also in the intestines, but the persulphate of iron did not.

The experiments repeated on a young cat, with one drop of the acid, gave the same results.

A dog being poisoned by twelve drops of the acid, died in half an hour. The body was opened fifty-three hours after death, and both the contents of the stomach and the stomach itself, distilled as before, gave, by sulphate of copper, decided proofs of the presence of the prussic acid.

Four drops diluted with water were injected into the rectum of a young cat; forty-eight hours after death the intestine was extracted and examined, and gave evidence of the presence of the poison.

M. Laissaigne observes, that when the quantity of hydrocyanic acid is very small, its presence is not shown by the sulphate of iron until twelve, or even eighteen hours after its addition, whilst the sulphate of copper discovers it immediately; and that the effect of the latter had frequently disappeared before the first had become evident. The experiments indicate—

1. That, from a ten thousandth to a twenty thousandth of hydrocyanic acid may be discovered in solution in water. 2. That when animals have been poisoned by hydrocyanic acid, traces of the poison may be discovered in them from eighteen to forty-eight hours after death. 3. That it is always in the parts into which the poison has been introduced, that it may be discovered. 4. That it has as yet been impossible to show the existence of the poison in the brain, the spinal marrow, or the heart, although these organs evolve an odour sufficient to excite suspicion of its presence.—*Ibid.*

Active Principle of the Daphné Alpina.—The following conclusions have been arrived at by M. Vauquelin, in consequence of experiments on this plant:—

1. That the irritating principle of the daphnes is a volatile oil.

2. That it is during the vegetation of the plants, when they contain most of the volatile oil, that they possess most energy.

3. That this oil being gradually converted into resin, the irritating powers of the plant diminish in proportion.

4. That a certain quantity of resin being formed, defends the rest of the oil from a similar change, and that it is in consequence of this circumstance that old plants retain, to a certain degree, the power of acting on the skin.

5. That this oil, as well as the acid accompanying it in infusions of the plants, is precipitated by acetate of lead, from which precipitate it cannot be separated by sulphuretted hydrogen.

6. That, nevertheless, this same oil may be separated from the sulphuret of lead by means of boiling alcohol, but that it remains combined with sulphur.—*Ibid.*

Mr. A. Robertson's Case of Fracture within the Capsular Ligament.—"On the 25th of June, 1822, William Darwin, aged sixty-two, a tall athletic convict, of a sanguine temperament, fell, with a very inconsiderable violence, across a piece of timber in the Dock-yard, his left hip coming in contact with the wood. On rising, he felt an acute pain in the region of the acetabulum, but no other inconvenience, for he walked on board to exhibit himself to the surgery man.

"From finding him *ranked up* with the sick of the hulk on my morning visit of the 26th, from his walking on board, and from his own account of the accident, I did not suspect any serious injury of the joint, and treated the case as one of concussion. On the 29th, however, he complained of a very sudden and very agonizing accession of pain, which induced me to subject him to a more critical examination. No evident alteration in the size of either hip could be discerned, but a shortening of the limb was conspicuous, which was rendered more evident by making him stand on the sound limb; extension removed this difference, but on being freed from restraint it again assumed its morbid shape; the knee and foot were everted, and rotation greatly increased his pain.

"I removed him to the hospital as a case of fracture within the capsule, but continued attention for a period of six months to position (chiefly with the view of restraining the motion of the pelvis, and of securing the limb,) made no other alteration in the symptoms than a gradual diminution of pain. A pair of crutches were given him, he was placed on the invalid list, and remained so till the 26th of December, when he died from a general dropsy.

"On dissection, the injury proved a transverse fracture of the head of the femur, within the capsular ligament. No species of union had taken place. The upper portion of the fractured bone was retained in situ by the sound ligament; tolerably smooth on its surface, but without any ossific deposit. The lower portion very irregular, with several detached pieces of bone adhering to the insertion of the capsular ligament. Between the acetabulum and the portion of bone retained in situ by the ligament were several small, oval-shaped, loose, cartilaginous substances, apparently fragments of bone. The capsular ligament was partially lacerated, in a line above the trochanter major, and greatly thickened in its insertions."—*Anderson's Quarterly Journal.*

Mr. Hebb's Case of Poisoning by Oxalic Acid.—A man, aged fifty-seven, swallowed an ounce of oxalic acid, dissolved in a tea-cupful of water, believing it to be Epsom salts, and notwithstanding all the medical means which could be employed, he died. He complained chiefly of great pain in his back and thighs, and inability to move his limbs. Afterwards the abdomen became painful to the touch, and much black matter was evacuated from the bowels, mixed with bloody shreds.

"*Dissection.*—I examined the body, about ten hours after death, in the presence of several medical gentlemen.

"The upper extremities, chest, and back, were much discoloured; the face had the appearance of one who had been hung; a considerable quantity of dark, frothy fluid, had issued from his mouth; the abdomen was tumid. On cutting into the cavity of the peritoneum, a small quantity of sanguineous fluid escaped. There was nothing remarkable in the general appearance of the viscera, excepting the great distention and discolouration of the small intestines.

"The mucous membrane of the pharynx and œsophagus appeared as if it had been scalded; that of the latter easily separated from the muscular coat, and on it were seen a number of minute, elevated, and opaque patches. The stomach contained about a quarter of a pint of thickish fluid; its villous coat was excessively pulpy, in many places of a black colour, in others highly inflamed. The mucous membrane of the small intestines exhibited pretty much the same appearances as that of the stomach, though in a less degree; they contained a small quantity of reddish pulpy fluid. There were many large patches of extravasated blood in the large intestines. The peritoneal coat of the stomach and intestines was much in-

flamed. The liver and gall-bladder appeared healthy; the latter was nearly empty. The spleen was smaller and harder than usual. The kidneys were healthy, but the pelvis of each was considerably more vascular than ordinary, and this extended a little way through the ureter. The bladder was natural; it contained a considerable quantity of urine. The mucous membrane of the larynx and trachea, and the lungs themselves, were intensely inflamed. There was no fluid in the pericardium, and the heart was healthy."—*Ibid.*

M. Zinc on the Danger of exhibiting Iodine.—M. Zinc has lately communicated two cases of fatal effects from the incautious use of iodine internally; and a third, in which unpleasant symptoms were induced, but they yielded to a proper treatment. In one case there were besides diarrhœa, priapism, tremors of the whole body, but especially of the arms; violent palpitations, and other nervous symptoms. The body was not opened, In the second fatal case, the symptoms are not detailed, but dissection exhibited violent gastro-enteritis and other traces of inflammation. These cases strongly confirm the remarks of Dr. Gardiner respecting the caution necessary in the exhibition of this medicine internally.—*Ibid.*

Extirpation of the Uterus. By Professor Palletta.—A Piedmontese woman, who had had several children, was admitted into the Civil Hospital of Milan, in consequence of an ulcerated tumour at the head of the neck of the uterus, attended with sero-sanguinolent discharge. Suspecting that the disease was cancerous, Palletta resolved on extirpating it. On the 13th April, 1812, he introduced one hand into the vagina, and by means of it, applied separately the two blades of a spoon-shaped forceps, so as to grasp the tumour at its root. But as the base was very broad, and the body ulcerated and uneven, the forceps tore away before the cutting instrument could be applied. The hand was again introduced, the tumour again grasped, the upper part of the vagina cut through with a curved pair of scissors, and the tumour detached, partly with them, partly with a sickle-shaped knife. The incisions were guided by an induration which Palletta felt with the finger of the hand in the vagina, and which he considered as the basis of the tumour. As soon as the tumour was detached, Paletta extracted it, and then removed a portion which still remained in the vagina. The operation was quickly performed, and the patient bore it well. The bleeding which Paletta had expected to be considerable, was not greater than in any common operation. The vagina, when examined by the finger, presented a large cavity: this was filled with soft charpie, sprinkled with an absorbing powder, and the patient put to bed.

After the operation, the tumour was examined in the presence of Palletta, Monteggia, and many assistants. To their very great astonishment they found that it was a smooth, round, and unwounded body, with a sarcoma-

tous tumour projecting from it. At first glance it was evident that this body was the uterus, with its cavity, without the Fallopian tubes, which were cut away close to its surface, and without any trace of the vagina at its lower part. The body of the uterus was somewhat hard and enlarged, and evidently diseased.

Six hours after the operation the patient was easy, had not lost any blood, and merely complained of pain on coughing or deep respiration. On the following day there was convulsive shivering, with vomiting and pain in the abdomen. The countenance was not changed; there was a pale bloody discharge, and the pulse was weak. On the third day the vomiting, though less frequent, continued; the belly was not tense, but painful on the right side; the pulse soft and compressible. The patient became gradually weaker, and died in the night.

On dissection, the omentum was found covering the intestines, and adherent to the peritoneum on both sides of the urinary bladder; the firmness of the connexion was such as to shew that it was not recent. The upper part of the intestines about the umbilicus were slightly inflamed. There was considerable inflammation of the peritoneum on the right side, extending over the diaphragm, liver, colon, and jejunum, with an effusion of turbid serum under the liver, and on the concavity of the os ileum of that side. On raising the last convolutions of the ileum an opening and cavity were to be seen, from which the uterus had been removed, and which were about the level of the linea innominata: on the iliac edge of this opening were the Fallopian tubes, cut across, and a little inflamed. There were not any traces of extravasated blood in any part of the pelvis, and the bladder and rectum were perfectly sound. Professor Palletta concludes from the examination that a subacute inflammation of the membranous surfaces had previously existed, and that to this, aggravated by the operation, the effusion of serum and the fatal event of the case were both attributable.—*Ibid.*

M. Velpeau's Pathology of Phlegmasia Dolens.—The author has related three cases of this disease, in all of which some aleration, more or less considerable, was found at the sacro-iliac symphisis of the same side on which the limb was affected; purulent effusions in the peritoneum, particularly about the genital organs; abscesses in the diseased limb; and lastly, a mixture of pus and coagulated blood in the veins of the limb, with evident traces of inflammation of their coats in two of the cases. M. Velpeau regards the alteration of the symphises as the original source of the disease, which afterwards becomes extended to the limb: the veins, according to him, being only consecutively affected, whether the pus in their cavities may have been originally formed there, or introduced by absorption. The veins were incompletely obliterated. These facts agree with the observations of M. Bouillard on the causes of certain kinds of dropsy; and

our readers will find, by referring to our analysis of Dr. Davis's paper, in the last volume of the Medico-Chirurgical Transactions, that these cases are in confirmation of his views, although his opinions are not entirely the same as those of M. Velpeau.—*Ibid.*

M. Recamier's Case of softening of the Brain.—"The patient, a female, aged forty-four, was subject, for the last nine years of her life, to epileptic attacks. They supervened at first from a fright, and became less frequent and less severe, so that she had intervals of three, four, or eleven months between each. The menses having ceased at the end of February, she was seized with a paroxysm of epilepsy, which left after it violent cephalalgia, and a constant, but peculiar kind of stupor. On the third day after the paroxysm, the *left* side was paralysed both in the faculty of motion and of feeling. Convulsive motions, attended with loss of recollection, came on during the fifth day. They scarcely presented any interval, and were much more marked in the limbs of the left side. She died on the eleventh day.

"*Dissection.*—Softening of the substance of the convolutions of the brain was remarked in the superior and anterior parts of the right hemisphere, to the extent of three inches in each direction. The grey substance was softened to a nearly diffluent state, and presented a grey gelatinous appearance. The medullary part of the brain was equally softened, was of a dull white colour, friable, and granulated. The pia mater, penetrating the anfractuosities of this portion of the brain, was considerably thickened, as well as that part of it connected with the arachnoid. This latter presented a milky appearance. Professor Recamier regarded the semi-gelatinous softening of the grey substance of the brain as the result of a chronic inflammation intimately connected with the state of the pia mater and arachnoid, which had given rise to the previous attacks of epilepsy, whilst the dull-white softening of the medullary part had occasioned the paralysis that supervened shortly before the patient's death."—*Ibid.*

M. Cruveilhier on the Anatomical Structure of the Trachea and Bronchia.—This is a valuable paper, and as it may lead to interesting discovery, we shall give a copious abstract.

"Wherefore," says M. Cruveilhier, "are the cartilaginous rings of the trachea replaced behind by a membrane? It is, say some, in order to facilitate the dilatation of the œsophagus; but this opinion is evidently erroneous, because the trachea and œsophagus are moveable in all directions, and if the œsophagus could not dilate forwards, it might dilate itself in the direction of both its sides. The structure of the trachea of certain animals, as that of the bullock and sheep, prove moreover this fact. Indeed, it may be remarked, that the cartilaginous rings terminate behind in an acute angle, in the form of the hearts on playing cards. The membranous part

exists *within* this angle, which is not very yielding, considering the thinness of the cartilages behind the membranous part. The structure of this membranous part essentially consists of transverse muscular fibres, the use of which is evidently to bring together the extremities of the rings, and consequently to diminish the diameter of the trachea. As a proof that such is their office, the extent of the membranous parts is according to the degree of constriction of the trachea requisite to the different modulations of voice. Man, in whom the voice presents so extensive a scale of tone, has a trachea with a large membranous part supplying the place were the cartilaginous rings terminate. In the bullock the rings terminate behind by two convex extremities, which are generally broader than in the rest of the cylinder. The membranous structure is placed within this posterior part of the cylinder, nearly at the same relative distance from its anterior concavity, as in man. The portion of the rings prolonged behind the membranous part is much thinner and softer than that before it, so that they may be easily applied closely to each other, and thus permit the trachea to be narrowed, although much less than in man. Assuming the diameter of the trachea to be six, it may be constricted to four in man, and to five in the bullock.

"In attempting to determine the structure and uses of the longitudinal projecting lines, perceptible on the membranous portion of the trachea, I observed that these lines are formed of fasciculi of fibres, which I considered at first to be muscular, but which are evidently albugineous. These fibres line the whole cavity of the trachea, and are disposed, in a uniform manner, on all the cartilaginous part, whilst they form small fasciculi towards the membranous portion, imparting to it greater solidity, and facilitating the transverse foldings of the mucous surface. This fibrous membrane, intimately united to the mucous tunic on one part, and to the cartilaginous rings on the other, forms, by becoming thicker, fibrous rings separating the cartilaginous rings, but occupying only their posterior or inner aspect, the rest of the interval between the cartilaginous rings being filled by a white adipose tissue, hitherto little known, and which covers, anteriorly, another very thin layer of fibrous tissue, that appears to be the perichondrium, extended from the first to the last of these rings. This adipose tissue, which in animals occupies the same space, is placed behind the transverse membrane. The fibrous membrane lining the cavity of the trachea is very elastic, and imparts much solidity to it, especially in its divisions.

"*Structure of the Bronchiæ.*—The bronchiæ present the same structure as the trachea; but the bronchial ramifications offer some remarkable peculiarities. Here, indeed, there is more of the membranous part, but the cylindrical form is complete; the cartilaginous rings are replaced by segments of circles of several lines in breadth at their middle part, forming very nearly the third of the circumference of the cylinder. Each segment terminates in an elongated point, which is continuous with, or passes into

fibrous tissue. Sometimes two adjoining rings are united at their middle portions. The rings are so disposed, that the one glides within the other, and they move with so great facility, that a slight pressure of the fingers causes a diminution of one half of the diameter of each cylinder. The albugineous longitudinal fibres, disposed in fasciculi, extend to the farthest extremities of the bronchial conduits, and support the fibro-cartilaginous segments: if this support is removed by dividing the fibres, the extremities of the segments project into the interior of the cylinder. A muscular membrane, consisting of circular fibres, also occupies the interior of the cylinders. May not this structure be viewed as a perfect apparatus of motion, and may it not be concluded that, were it possible for the eye to observe its operation during life, the bronchial conduits would be found to contract themselves to one half of their diameter, or even nearly to their entire obliteration, when exposed to chemical or other physical influences of an irritating nature?

"*The Lungs.*—At the margin of each division, the cartilaginous segments of the bronchiæ assume a particular form, so that the two fibro-cartilaginous laminæ unite in order to form a very acute angle; a confirmation the most suitable for dividing the inspired column of air. The fibro-cartilaginous plate which corresponds to the continuation of the bronchial conduit, is larger than that which belongs to the branch given off from it. The cartilaginous rings sooon disappear; but this species of mechanism at the bronchial divisions continues to the entrance into a lobule. That part of the bronchial canal deprived of cartilaginous rings is very considerable, and is solely composed of the mucous membrane, of the fibrous fasciculi, and of circular muscular fibres. The bronchiæ and their divisions are united, by a loose laminar tissue, to the venous and arterial vessels, to the nerves, and to the pulmonary lobules belonging to these parts.

"On isolating the bronchial lobules in a small lung which I had submitted to a very fine injection, I had occasion to observe their relations, and to remark that those of the superfices come in contact at their adjoining margins, leaving also intervals between them, which are filled with other lobules. The lymphatic vessels are distributed in the cellular line interposed between these lobules. The blood-vessels begin not to be superficial until at the part where the cartilaginous rings disappear, and then they assume the tortuous disposition observable in the extremities of all the vessels. Respiration, or rather its offices, seem to be executed as well in this situation as in the vesicles of the lobules. These lobules are composed of vessels excessively delicate and minutely divided, and sustained by a very fine laminar tissue. The pneumo-gastric nerves proceed exclusively to the muscular tunic."—*Ibid.*

Hydrocyanic Acid.—Two remarkable cases of death took place not long ago, within twenty-four hours, at a country seat, in the environs of Paris,

of two healthy men, one aged nineteen, and the other forty years. Several young gentlemen, students of medicine and surgery were successively called, who could observe still some symptoms of the last victim whose agony lasted much longer. They regularly proceeded to an apparently correct autopsic examination of the two subjects, and they made a very detailed report, ascribing death to apoplexy; having found no visceral lesion whatever, nor the least proof by chemical tests of the presence of any mineral or metallic poison. The subscribers to the report confessed however, that of vegetable poisons which leave no sensible alteration, and are also inodorous, they could affirm nothing in the case. Subsequently to that event, Dr. Pierquin published a very instructive *medico-legal dissertation*, to prove that the two unfortunate men had been, or might have been poisoned by the prussic acid, contained in a simple extract or distilled water of the prunus lauro-cerasus, which too often ornaments French gardens.

He infers that injection or congestion of the cerebral apparatus is not sufficient to constitute apoplexy. This supposes the existence of pre-disposing organic causes of a simultaneous diagnosis, and of subsequent symptoms which were by no means designated in the above cases. He then relates a number of cases of poisoning by prussic acid from vegetable substances, in which the necroscopic appearances were perfectly similar to the preceding. And after analysing the various circumstances observed by the reporters, such as the flexibility of the body after death, the involuntary dejections, the anhelous respiration, the lock-jaw and froth at the mouth, the sebacic animal odor of the fluids found in the stomach, the slight appearances of inflammation on the gastric membrane, and the great quantity of azote emitted with the intestinal gases; he adduces them as characteristic of the hydrocyanic poison, and justly censures the reporters for not having tested the fluid found in the stomach upon some domestic animal!

DOMESTIC.

Transactions of the Medical Society of the State of New-York for the year 1825. Albany, 1825.

The Society met at the Capitol, in the City of Albany, pursuant to a statute of the State, on Tuesday the 1st of February, 1825. The following gentlemen took their seats as permanent members or delegates from their respective County Medical Societies, viz.:

Dr. John H. Steel, Vice President, Saratoga.
— William Bay, Albany.

Dr. Henry L. Van Dyck, Columbia.
— Eliel T. Foote, Chatauque.
— E. Wallace, Westchester.
— John Van Name, Rensselaer.
— James M'Naughton, College of Physicians and Surgeons of the Western District.
— Royal Ross, Chenango.
— Felix Pascalis, New-York.
— Peter Wendell, Albany.
— James R. Manley, New-York.
— Henry Van Hovenburgh, Ulster.
— Daniel Ayres, Montgomery.
— T. Romeyn Beck, Albany.
— Platt Williams, Albany.
— Laurens Hull, Oneida.
— James M'Goffin, Schenectady.
— Joshua Converse, Schoharie.
— Delos White, Otsego.
— Anthony Gage, Yates.
— Thomas Greenly, Madison.
— Samuel Freeman, Saratoga.
— Abram Allen, Washington.
— Stephen Todd, Herkimer.
— James Faulkner, Livingston.
— James Pettit, Onondaga.

The following gentlemen were elected officers for the ensuing year, viz.:

Dr. James R. Manley, *President.*
— Theodric Romeyn Beck, *Vice President.*
— Platt Williams, *Secretary.*
— Jonathan Eights, *Treasurer.*

CENSORS.

Dr. Felix Pascalis,
— Charles Drake,
— John B. Beck,
} *Southern District.*

— Wiliam Bay,
— Peter Wendell,
— Jonathan Eights,
} *Middle District.*

— Abram Allen,
— Daniel Ayres,
— John H. Steel,
} *Eastern District.*

— Alexander Coventry,
— Laurens Hull,
— Luther Guiteau,
} *Western District.*

Royal Ross,
Stephen Todd.
Eliel T. Foote,
Henry P. Van Dyck,
Delos White,
Joshua Converse,
Samuel Freeman,
Anthony Gage,
} *Committee of Correspondence.*

The prize questions adopted by the society, for the year 1826, are the following, viz. :

1. The history, causes, and treatment of hooping-cough.

2. The history of goitre, shewing in what sections of the United States it is prevalent—what atmospheric or topographical influence aggravates it, and by what remedy it can best be relieved or cured.

University of the State of New-York.

College of Physicians and Surgeons of the Western District.—The Regents of the University have conferred the Degree of Doctor of Medicine upon the following gentlemen, students of this College :

Stephen V. R. Bogert of Albany, on *Hernia.*
Charles B. Coventry of Oneida Co., on *Purulent Ophthalmia.*
David Coon of Herkimer Co., on *Necrosis.*
Alvin Cowl do. on *Croup.*
Almison Fitch of Delaware Co., on *Ergot.*
David Y. Foot of Madison Co., on *Puerperal Fever.*
Joel Gray of Washington Co., on *Carbon.*
Hiram Hadley of New-Hampshire, on *Iodine.*
John S. W. Hellen of Beaufort, (N. C.,) on the *Typhus Mitior of North-Carolina.*
Thomas Jefferson Jones of Herkimer Co., on *Alcohol.*
Garritt P. Judd of Oneida Co., on *Variolæ Vaccinæ.*
Joel Lull of Otsego Co., on *Aneurism of the Heart.*
Patrick M'Craith of Otsego Co., on *Chronic Inflammation.*
Rufus Priest of Herkimer Co., on *Measles.*
Charles Van Ess of Oneida Co., on *Mania.*

Medical Schools of the United States and number of pupils.—There are fourteen medical schools in the United States, viz. seven in New-England, three in the Middle, two in the Southern, and two in the Western States. Their names, and the number of pupils frequenting them, are as follows :

Medical School of Maine, Bowdoin College, (Brunswick,) - -	60
Medical School of Dartmouth College, (Hanover, N. H.) - -	80
Massachusetts Medical College, (Boston,) - - - - -	130
Berkshire Medical Institution, (Pittsfield, Mass.) - - - -	100
Medical School of Yale College, (New-Haven, Conn.) - - -	110

Castleton Medical Academy, (Vermont,) - - - - - -	130
Medical School of the University of Vermont, (Burlington,) - -	60
Medical School of the University of New-York, Western District (Fairfield,) - - - - - - - - - - -	120
Medical School of the University of New-York, (city of New-York,)	196
Medical School of Pennsylvania, (Philadelphia,) - - - -	480
Medical School of Maryland, (Baltimore,) - - - - -	300
Medical School of Charleston, (S. C.) - - - - - -	50
Medical School of Ohio, (Cincinnati,) - - - - - -	40
Medical School of Transylvania University, (Lexington, Ky.) -	200
[*New-York Monthly Chronicle.*] Total.	2056

Results of Meteorological Observations for 1824, *kept at Albany.* By T. Romeyn Beck, M. D.

Mean temperature at 7 A. M. - - -	42°	71
Mean temperature at 2 P. M. - - -	54	26
Mean temperature at 9 P. M. - - -	46	49
Mean of all the observations, - - -	47	88
Greatest height of the Thermometer, - -	89	
Lowest height of do. - -	—3	
Greatest annual range, - - - -	92	
Greatest monthly range, - - - -	60	
Greatest daily range, - . - - -	30	

Weather.

Clear days, - - - - - -	134
Cloudy days, - - - - - -	131
Variable - - - - - - -	101
Rain, number of days on which it fell, -	83
Snow, number of days on which it fell,	19

Quantity of rain during the year (January, February, March, November, and December excepted,) 21° 86.

Winds.

North,	32 days.	South,	49 days.
North-east,	11	South-west,	25
East,	1	West,	51
South-east,	103	North-west.	94

Prevailing wind, south-east.

Civiale's Lithontriptor.—We have seen in the possession of Dr. Mott, the beautiful and ingenious instrument, called the lithontriptor, invented by Mons. Civiale of Paris, for boring the calculus in the bladder. From the high character which is given of this instrument by the committee of the

French academy of medicine, consisting of Barons Percy and Chaussier, we hope that it may supersede any of the cutting instruments. Dr. Mott has commenced preparing a patient for the trial of the lithontriptor, by enlarging the urethra with bougies. We hope to be able in our next number to give the result.

Dr. Smith's Case of Poisoning.—A Miss H—— of Cincinnati, designing to take a large dose of common salts, swallowed instead, in a state of solution, between two and three ounces of salt petre, *nitras potassæ*. She was immediately made sensible of the mistake by an excruciating pain and distress at the pit of the stomach. Her mother called on an apothecary, living next door, to inquire her danger and what was to be done. He advised to send instantly for a physician, and administered ten grains of tartar emetic.

Dr. Smith soon came, and considering her agony, and that the emetic was little disposed, or likely to occasion an ejection, he promptly employed the excellent apparatus consisting of a gum elastic tube and exhausting syringe; the former of which he passed through the mouth into the stomach, and with the latter soon introduced a considerable quantity of tepid water, which, together with the solution of salt petre and tartar emetic, he again extracted. This process was continued till the fluid drawn from the stomach was as tasteless as when thrown into it. The whole quantity of water employed, within a few minutes, amounted to about four gallons. After the stomach was thoroughly cleansed and emptied, he introduced three or four ounces of sweet oil, and withdrew the tube.

The operation was less painful than the effects of an active emetic, and proved completely successful. We have related the above case with the double object of inciting people generally to more caution, and also to recommend the remedy employed.

Salt petre is an article in such common use, and so nearly resembles Glauber salts in its appearance, that instances similar in kind, though happily not in degree, often occur. A small quantity is generally followed by a long continued disorder of the stomach, and is frequently fatal. It should never be laid by without the paper enclosing it being marked, in legible characters, *Salt Petre.*

QUARTERLY BIBLIOGRAPHICAL NOTICES.

A Compendious System of Midwifery, chiefly designed to facilitate the inquiries of those who may be pursuing this branch of study. Illustrated by occasional cases. With thirteen engravings. By William P. Dewees, M. D. Lecturer on Midwifery; Member of the American Philosophical Society, &c. pp. 602. Philadelphia. H. C. Carey & J. Lea. 1824.

From the ample experience of Dr. Dewees in this branch of professional study and practice, and from the ability with which his essays were written, we had formed high expectations of the merits of this work before we saw it. These expectations we are happy to add have not failed of fulfilment in every respect. As a comprehensive, accurate, and minute text book to both student and practitioner, Dr. Dewees' work is inferior to no other extant. Its intended republication in England, is a gratifying testimony of the value set upon it even there. We hope shortly to present our readers with a detailed account of this excellent system.

An Essay on the Danger of Interments in Cities; translated from a work entitled "Essais sur les lieux et des Sepultures," &c. By Vicq D'Azyr, D. R. de la Faculté de Médicine de Paris, &c. &c. New-York. 1824. pp. 82.

This translation of Vicq D'Azyr's Essay was made at the request of a Committee of the New-York Board of Health, and is every way worthy the attention of our citizens at the present moment, when so much excitement prevails in relation to the recent ordinance of our city corporation, by which interments in the city are prohibited. It is proper to state, that much of the Essay of D'Azyr will be found in a condensed form in the work of Dr. Pascalis, which we have already noticed in our Review department.

The New-York Monthly Chronicle of Medicine and Surgery. Conducted by an Association of Physicians. Nos. 7, 8, and 9. New-York. 1825.

We conceive the medical public is laid under many obligations to the conductors of this journal, whoever they may be, for the spirit of impartiality and independence with which it has been conducted. It has done much, and we hope it may do more, to rouse the attention of the profession to existing abuses. We sincerely wish it success.

On the Utility of Country Medical Institutions: an Introductory Lecture, delivered at the College of Physicians and Surgeons of the Western District of the State of New-York, December 18, 1824. By T. Romeyn Beck, M. D. Professor of the Institutes of Medicine and Lecturer on Medical Jurisprudence in the College of Physicians and Surgeons of the Western District of the State of New-York, &c. Published at the request of the Class. pp. 20. Albany. 1825.

A Physiological Essay on Digestion. By Nathan R. Smith, M. D. Professor of Anatomy and Physiology in the University of Vermont. New-York. pp. 93. 1825.

We shall review this work in our next.

NOTICES.

To the Patrons of the New-York Medical and Physical Journal.

NEW-YORK, March 1, 1825.

My connexion with the New-York Medical and Physical Journal terminated with the publication of the third volume.

JOHN W. FRANCIS.

Dr. J. Kearny Rodgers will, in November next, commence a course of Lectures on Anatomy. As the end of this branch of medical education is its application to practice, it will be the constant endeavour of Dr. Rodgers to bear in mind its connexion with medicine, obstetrics, and, more particularly, surgery.

State Medical License.—Candidates wishing to obtain licenses to practise Medicine and Surgery, are informed, that the Censors of the State Medical Society for the Southern District will hold their examinations in the city of New-York. They are requested to apply to either of the censors.

FELIX PASCALIS, M. D.
CHARLES DRAKE, M. D. } Censors.
JOHN B. BECK, M. D.

We regret that it is out of our power to publish the names of the candidates recommended for the degree in medicine by the trustees of the College of Physicians and Surgeons in this city. When this sheet went to press, the list was still pending before the regents.

To Readers and Correspondents.

Our next number will contain communications from Professor Willoughby, Drs. C. B. Coventry, Townsend, Pascalis, Bell, Peixotto, &c. &c.

Errata.

Page 92, 4th line from bottom, dele "and" before "so constructed."
—— 92, 12th do. dele "of its intention."

Fig. 9

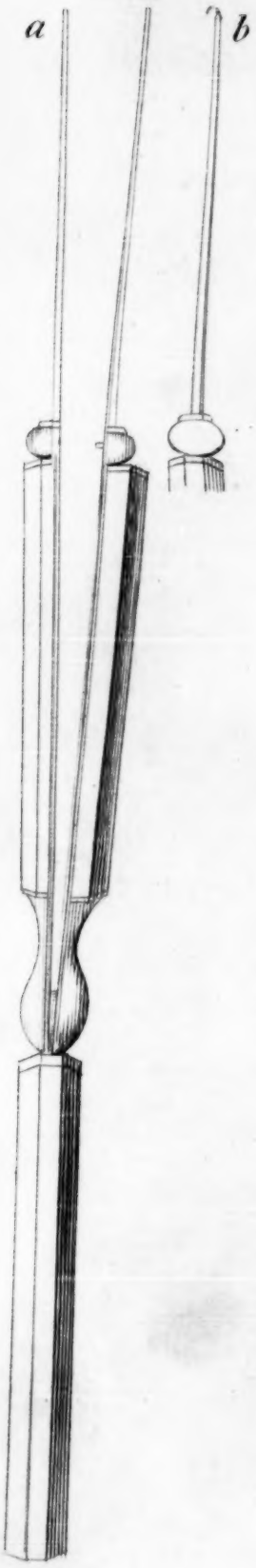


Fig. 1

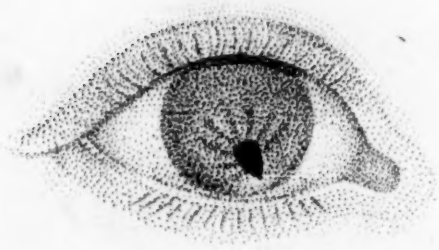


Fig. 2

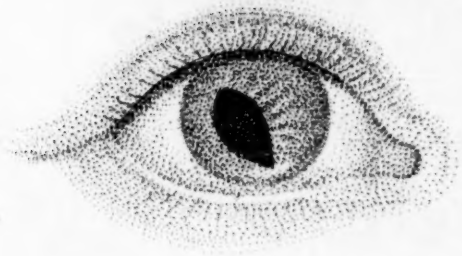


Fig. 10

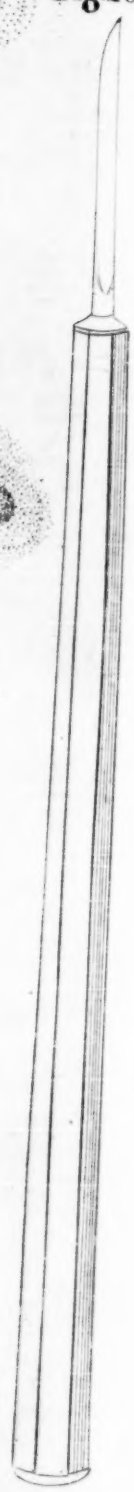


Fig. 3

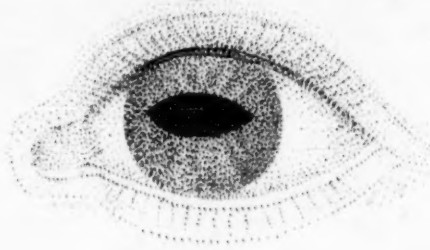


Fig. 4

Fig. 5

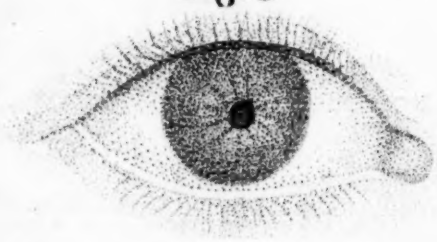


Fig. 6

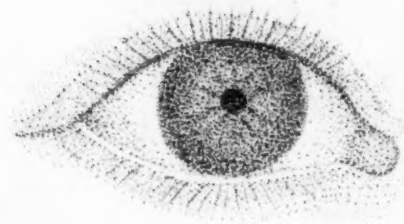


Fig. 7

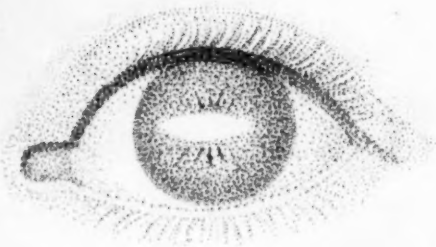
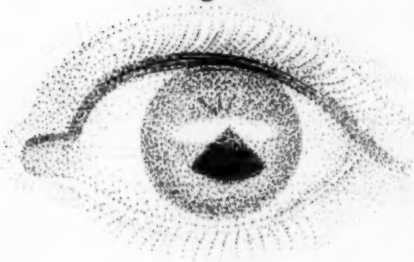


Fig. 8



J. Bell M.D. del.